

**A COMPARATIVE EXAMINATION OF GANZFELD AND DREAM
REPORTS IN FREE RESPONSE ESP STUDIES**

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Abstract

In studying altered states of consciousness in relation to psi, parapsychology researchers have achieved interesting results. It seems that altered states of consciousness could facilitate somehow psi-manifestation, however, further research is needed to verify that. This thesis presents two experiments aimed to explore participants reports of their experiences in two altered states of consciousness conditions, the dream and the ganzfeld.

The ESP dream condition is used in one of this experiments. The ESP dream condition involves a clairvoyance technique. The experimental ESP dream research is reviewed with emphasis on those experiments which are relevant to the method used in this thesis. Problems with some methods of dream ESP research are approached and discussed as well as difficulties of doing such research.

The ganzfeld condition with clairvoyance technique is used in the second experiment of this thesis. The ganzfeld is know as one of the most successful methods for the achievement of ESP results. The experimental ganzfeld research is reviewed emphasising studies which are relevant to the method used in this thesis, and difficulties with methods of conducting ganzfeld research are presented and discussed.

A general review is made of the content analysis method which is used in this thesis as a tool to analyse the content of dream and ganzfeld experiment reports. The results obtained of the dream and ganzfeld reports' content analysis showed patterns within the participants' reports data. All the results concerning the content analysis are presented within specific chapters of this thesis.

Both studies in this thesis were conducted by the author in Curitiba, a southern city of Brazil. A total of 50 Brazilian participants took part in 100 experiments, 50 dream experiments, and 50 ganzfeld experiments. The main question of this thesis was: "What do people report about their dream and ganzfeld experiences measured in relation to content analysis categories, and what can that tell us about the ESP process itself, and are these categories related to actual success and failure?". The main findings of this thesis were that overall results for the dream condition were at chance, and overall results for the ganzfeld condition were suggestive of psi-missing, thus the null-hypothesis was confirmed. That suggests that perhaps psi just do not exist. In addition, a sheep-goat effect was found in both dream and ganzfeld conditions, and clarity of hearing and clarity of imagery correlated negatively with ganzfeld ESP scores. A pattern was found in content analysis of participants' reports for female participants' dream, ganzfeld mentation, and ganzfeld written reports successful trials, all three having more references of content to torso/anatomy category. In addition, female participants' dream, ganzfeld mentation, and ganzfeld written reports unsuccessful trials presented a pattern with more references of content to male/female characters category. Finally, further research is needed, such as in countries like Brazil, to further parapsychological knowledge about the psi process as a whole.

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I have composed this thesis, and declare that the work is my own.

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CHAPTER 1

INTRODUCTION AND OUTLINE OF THESIS

Introduction

The name parapsychology, literally “beside or beyond psychology”, was firstly proposed by Max Dessoir in German, as *parapsychologie*, and was borrowed by J. B. Rhine as parapsychology in English (as cited in Edge, Morris, Palmer & Rush, 1986). For present purposes I am going to adopt the parapsychology definition given by Harvey J. Irwin (1999, pg. 1), “as being the scientific study of experiences which, if they are as they seem to be, are in principle outside the realm of human capabilities as presently conceived by conventional scientists”. Parapsychology involves phenomena which are unknown to or unrecognised by orthodox science, termed as paranormal phenomena. By paranormal phenomena I mean any phenomena that, in one or more respects, go beyond the limits known to us of what is considered physically possible on current scientific assumptions. Paranormal phenomena is often used a synonym for ‘psychic’ and ‘parapsychological’ (Irwin, 1999). People usually talk about paranormal phenomena and supernatural phenomena as being similar. However, supernatural means above and beyond nature, and so by definition, this is not really open to meaningful scientific investigation. Paranormal phenomena are different. These are phenomena that presently seem to be outside of scientific explanation, but it looks as though, sooner or later, they will have a scientific explanation. Therefore, paranormal phenomena are part of the natural world, and are considered here as an anomalous mean of communication or interaction between an organism and its environment. By anomalous means of communication I mean a

deviation from the norm regarding such communication that seems to happen without the use of any presently understood channels of communication, such as for example, telepathy which appears to be a mind-to-mind interaction.

Parapsychology is the scientific study of paranormal phenomena, most specifically, Extrasensory Perception (ESP) and Psychokinesis (PK). In what follows I use Thalbourne's (1982) definitions. The term PK is considered to be "a direct influence of mind on physical systems or mind over matter, without the mediation of any known physical energy" (p. 61). The term ESP is considered to be "the acquisition of information about an external event, object or influence (mental or physical; past, present or future) otherwise than through any of the known sensory channels" (p. 27). ESP comprises telepathy, clairvoyance, and precognition. Telepathy is a mind to mind communication where the person seems to be directly aware of the other person's thoughts or other mental activities. Clairvoyance is the paranormal acquisition of information regarding physical objects or physical events. In contrast to telepathy where the information is assumed to derive from the mind of another person, the information regarding clairvoyance is assumed to arise directly from an external physical source, such as a hidden picture. Precognition is the paranormal acquisition of information regarding some future event. There are situations where it is difficult to differentiate whether telepathy or clairvoyance, or both, are involved. It is very difficult to demonstrate that there is evidence just for telepathy, not clairvoyance or anything else. Therefore, the term GESP, General Extrasensory Perception, is used. The term GESP refers to "instances of extrasensory perception in which the information acquired might have come from another person's mind (e.g., as telepathy) or from a physical event (e.g., as clairvoyance), or even from

both sources” (p. 30). When seeking to address paranormal processes, and represent both ESP and PK phenomena, parapsychologists use the neutral term psi. In this thesis I focus on ESP phenomena.

Psi research has been developed following two traditions, the proof-oriented and process-oriented traditions. Proof-oriented psi research tries to establish the existence of paranormal abilities. Parapsychology has been challenged to provide conclusive evidence of the existence of psi, and although it would be difficult to “prove” psi, a very strong case is being built for it, and many might regard it as having been demonstrated, as will be seen later. On the other hand, process-oriented psi research seeks to understand the functioning of paranormal abilities rather than to prove them. Process-oriented psi research aims to increase our understanding of the processes involved regarding psi manifestation, basically trying to understand how it works, and what processes are involved.

One major area of process-oriented research has been the exploration of apparent paranormal phenomena during altered states of consciousness, in part because there is much evidence that those phenomena occur during such states (Alvarado, 1998; Alvarado, 2000; George and Krippner, 1984; Honorton, 1974a, Honorton 1977; Honorton & Stump, 1968; Honorton, Ullman, & Krippner, 1975). And secondly it may be that these are unusual states of consciousness that have their own characteristics and perhaps therefore they can tell us something about how the paranormal phenomena work. Therefore, perhaps by studying reported paranormal experiences which seem to have a stronger presence in some altered states of consciousness it may be possible to discover if there are specific ways people have to

report their experiences in order to make these phenomena become evident. Perhaps this then is a reasonable place to be basing some process oriented research.

ESP in Altered States of Consciousness

Altered states of consciousness were defined by Tart (1969) as any mental state which differs from that of the normal waking state condition. Altered states of consciousness have been of parapsychologists' interest, and the dream and the ganzfeld (sensory deprivation procedure) have demonstrated to be efficient tools to study altered states of consciousness in psychology in general. An altered state of consciousness can occur naturally such as, for instance, when dreaming, or via the hypnagogic or hypnopompic states, or can be induced as, for example, by sensory deprivation, trances induced by rituals, and hypnosis. By hypnagogic-like-state I mean a transitional state of consciousness which is experienced while falling asleep. Hypnopompic state refers to the transitional state of consciousness experienced while in the process of awakening. Psi research has shown that altered states of consciousness facilitate an inwardly directed mental state and the appearance of visual imagery (Honorton, 1974a). In addition, some of the most consistently reported psi experiences have been in different kinds of altered states of consciousness (Rhine, 1954). Altered states have some features such as changes in the orientation to reality, changes of the sense of time, etc.

It is not known what is it about these altered states that seems to manifest more ESP than regular states. It seems that the ability to focus on the unusual while in an altered state of consciousness might favourably direct attention towards any possible psi information. By 'focus on the unusual while in those states' I mean that

people may focus on internal mentation, etc., that ordinarily they do not focus on because they are focusing on the external world.

Surveys have shown that ESP is reported more in altered states than in regular states. As such, dreams appear to be a common vehicle for ESP information within spontaneous cases (e.g., Prasad & Stevenson, 1968; Alvarado, 1996). Spontaneous cases refers to naturally occurring ESP, instead of laboratory induced occurring ESP. For instance, Louisa Rhine (1954) in her investigation of the frequency of types of experience in spontaneous precognition with an American sample, found 75 per cent of the precognitive cases related to dreams, against 25 per cent of the cases related to waking states. Another survey, the *Phantasms of the Living*, considered as the major early survey of documented paranormal spontaneous cases, had 702 cases with ESP involved, from which 47 per cent of the cases involved sleep and dreams, as will be seen later (Gurney, Myers & Podmore, 1886).

Taking into consideration our interest in the study of altered states of consciousness, and the evidence towards dreams as a common vehicle to psi enhancement, this thesis study investigates altered states of consciousness using dreams (and the ganzfeld which is presented later) as a particular tool for it. Much literature can be found on dreams as a state of consciousness with inherent conduciveness for psi enhancement (e.g., Krippner, 1970; Krippner, 1993; Krippner, Honorton, Ullman, Masters, & Houston, 1971; Ullman, 1966; Ullman, 1973; Ullman, & Limmer, 1988; Ullman, Krippner, & Feldstein, 1966; Van de Castle, 1977). Dreams have been considered a promising area of study throughout parapsychology's history as the most common altered state of consciousness found to be associated with ESP in everyday life.

The dream, as defined by one of the leading dream researchers, Calvin Hall, is a succession of images, predominantly visual in quality, which are experienced during sleep (Hall, 1953). Hall's definition focuses on the experience itself; however in recent years much attention has been paid towards the reports of experiences rather than on the experiences themselves since we do not have direct measurement of the latter. For instance, Krippner, Jaeger, and Faith (2001) preferred to define the dream as any reported imagery or other mental/emotional content that the dreamer claimed to have experienced during sleep. This definition focuses more on the nature of the report itself and that sets the context for us to be focusing on dream reports themselves. We must never forget that nobody shows us their dreams directly; instead they always talk about it, and that might mean a source of noise or a source of potential error. Moreover many have argued that researchers have to be aware of the social context in which people talk about their experiences (e.g., Wooffitt, 1992). In the more recent tradition of focusing on the nature of the reports, techniques such as discourse analysis, conversation analysis, and content analysis have been increasingly used in the Social Sciences, and in this thesis I will be focusing on the content analysis technique. Our aim is to focus on what people report about their dream and ganzfeld experiences, to investigate what can be learned from those reports about the ESP process itself, and about differences between these two conditions. Content analysis, "converts verbal or other symbolic material into numbers in order that statistical operations may be performed on such material" (Hall & Van de Castle, 1966, p. 1). Content analysis, thus, is the search for meaningful regularities and patterns in written documents.

In 1966, Calvin Hall and Robert Van de Castle (1966) published a dream classification system taking into consideration most of the older dream coding systems. However, this is a very early coding system which is now being improved (Domhoff, 1996), and that is the system that is going to be used in this thesis. The idea of adapting dream content analysis to psi research was developed by the Maimonides Dream Telepathy team who performed such analysis on dream transcripts generated in their telepathy studies (White, Krippner, & Ullman, 1968). The most important laboratory ESP dream research, which provided evidence of psi through nocturnal dreams, was conducted at the Maimonides Medical Center, in New York. The results of that study indicated that when someone was asked to send mental images to a dreaming person, those images were sometimes incorporated into their dream (e.g., Ullman & Krippner, 1970). Several other kinds of altered states of consciousness have been explored, such as hypnosis, meditation, etc. However one condition which has substantial experimental evidence behind it also seems to resemble a kind of dream-like state, and that is the ganzfeld.

After the Maimonides experimental dream series, one of the researchers, Charles Honorton (Honorton & Harper, 1974) began a new series of telepathy experiments using a new method to parapsychology, the ganzfeld. At the same time Adrian Parker (Parker, 1975) and William Braud (Braud, Wood & Braud, 1975) began, independently, a new series of telepathy experiments using the ganzfeld method. The ganzfeld method, originated in psychology, was borrowed because it looked like it could serve as an extension of the ideas underlying the Maimonides dream experiments and other altered states studies. However, the ganzfeld provided a cheaper and quicker technique to conduct psi studies than did dream methods. The

ganzfeld method appears to share some characteristics with the dream state, for instance, physical and mental relaxation, sensory isolation, and a decrease of externally directed attention, which is believed to increase imagery production (Honorton, 1977). According to Bertini, Lewis, and Witkin (as cited in Tart, 1969), the meaning of the term 'ganzfeld', from its German origin, is 'whole field'. The ganzfeld involves a partial sensory deprivation procedure which creates an unpatterned visual and auditory field. The ganzfeld method has been successfully used in ESP testing during the last three decades. Much literature can be found on the ganzfeld as a method to induce a state of consciousness with inherent conduciveness for psi enhancement (e.g., Bem & Honorton, 1994; Dalton, 1997a; Dalton, 1998; Child, 1985; Honorton, 1992; Morris, Cunningham, McAlpine, & Taylor, 1993; Morris, Dalton, Delanoy, & Watt, 1995; Schlitz & Honorton, 1992). Ganzfeld and dream features such as physical and mental relaxation, sensory isolation, and decrease of externally directed attention, are induced in the ganzfeld by the relaxation procedure, by the ganzfeld environment and by sensory restriction, and are naturally present during the sleep state. Nevertheless, the reader must keep in mind that there have also been dream, and ganzfeld studies which failed to present significant results (e.g., Globus, Knapp, Skinner & Healey, 1968; Milton & Wiseman, 1999). Therefore investigation is needed of the reasons why ganzfeld findings are not consistently positive.

Studies conducted on participants' mentation and process of reporting and explaining their experiences appear to be one way of telling us more about psi, and more will be said about that later (e.g. Carpenter, 1987; Delanoy, 1988-89; White, Krippner, & Ullman, 1968a). In this thesis, a content analysis developed for dream

studies is applied to both dreams and ganzfeld reported experiences independently. The purpose is to investigate what can be learned about the ESP process both in the dream and the ganzfeld conditions. A comparison of the dream content analysis with the ganzfeld content analysis is also performed to learn about their similarities and differences, and also to learn more about the ESP process itself. Comparative experimental studies of dream and ganzfeld states in relation to ESP success have been conducted in parapsychology (e.g., Kanthamani & Broughton, 1992), but not in relation to the reported experiences in the dream and in the ganzfeld. The study of participants' reports and possible identification of patterns within them, despite differences of reporting style from person to person, focuses on how people phrase themselves in the context of each of these two states. One purpose of this thesis is to see whether or not the content analysis reveals anything new about the kind of information that works its way into awareness, and the imagery that might be or might not be a carrier of paranormal information whenever people do turn their attention to things they ordinarily do not look at. These patterns could be identified through content categories, such as those used by the Hall and Van de Castle (Hall & Van de Castle, 1966) system of content analysis, as will be presented later. Such investigation would show which categories appear more frequently in the dream and ganzfeld reported experiences, which ones establish a pattern or are regularly applied to report dream and ganzfeld participant experiences, and which are related to successful trials outcome.

In summary, there is an apparent abundance of psi effect manifestation in altered states of consciousness, particularly where people seem to be sleeping, dreaming, or in the ganzfeld. That leads to my general questions of 'why that might

be the case, and what is so special about these states?”. Therefore, I decided to focus on two altered states of consciousness to answer these questions, the dream and the ganzfeld, as states that have a certain tradition behind them. In addition, it seems that little attention has been paid to what people actually report of their experiences in those states. That leads to the question of: “What do people report about their dream and ganzfeld experiences measured in relation to content analysis categories, and what can that tell us about the ESP process itself, and are these categories related to actual success and failure?”. This thesis starts answering these questions through the systematic examination of the dream and ganzfeld reported experiences using the Hall and Van de Castle dream system of content analysis.

The experimental portion of this thesis was conducted in Brazil, in Portuguese, because the author is a Portuguese speaker who intends to pursue the rest of his career in Brazil. Moreover, it was expected that the author would achieve more insights in applying the content analysis system in a Portuguese speaking population than in an English population, which is the author’s second language. Also the results from a content analysis done in the author’s first language would be more accurate.

Furthermore, it would mean more work done in Portuguese speaking countries, which have a strong interest in parapsychology. This also means starting to develop an understanding of psi techniques, and the language used to describe the experiences in the Portuguese language itself.

Outline of Thesis

Altered states of consciousness have been an area of interest in parapsychology, and the dream and the ganzfeld states have shown to be efficient tools to study altered states of consciousness in psychology in general. Therefore, our interest in studying altered states of consciousness in relation to psi lead me through two studies in this thesis, the dream experiment, and the ganzfeld experiment. Content analysis is applied to the reported experiences in these experiments, analysing various content categories to find patterns and regularities through these data.

The dream chapter in this thesis, chapter 2, is a general introduction to dreams and specific studies of dreams including the kind of dream procedures that will be used in this study. Dream research relevant to this study is presented and discussed as well.

The ganzfeld chapter in this thesis, chapter 3, is a general introduction to ganzfeld and specific parapsychological ganzfeld studies. This thesis reports the results of two experiments, the dream and the ganzfeld experiments.

The dream experiment method, procedure, and results are presented in chapter 4. The ganzfeld experiment method, procedure, and results are presented in chapter 5.

The content analysis of dreams chapter in this thesis, chapter 6, presents a general introduction to content analysis, presenting some studies which are relevant to this study, and the Hall/Van de Castle content analysis system, which is adopted in this thesis.

The ganzfeld and dream reports' content analysis chapter, chapter 7, presents the results of the dream content analysis, the ganzfeld content analysis, and the examination of dream versus the ganzfeld reports' content results.

Finally, the discussion and conclusion chapter, chapter 8, presents the main findings and summary, future research suggestions, and the conclusion.

CHAPTER 2

DREAM RESEARCH IN PARAPSYCHOLOGY

The role of this chapter is to review and evaluate the published dream ESP experiments which seemed to be important for understanding the role of dreams in eliciting psi and for the specific design of our study. Probably the first dream psi-related study involving to an experimental attempt to paranormally influence a dream, was reported in 1819 by H. M. Weserman (cited in Eisenbud, 1970). This chapter reviews the main dream studies that have been done under controlled experimental research, except for a few that are very specific to the design of our study which are presented later, and some other informal observations which are not reviewed.

Introduction

Dreams have always been a subject of interest and speculation. When dreaming, people have experiences which appear to be as real as when they are awake and which enable them to do various things, many of them considered quite impossible out of the dream context. Fragmentary written material about the content of ancient dreams dating back around five thousand years, was unearthed by archaeologists in urban centres of Mesopotamia (Van de Castle, 1994). These materials revealed that people interpreted dreams as messages from the gods, and that those dreams contained apparent interactions with gods, people, stars, objects, and also animals. More recently, Freud pointed out that dreams should be considered as meaningful psychological phenomena based on unconscious or other latent wishes (Freud, 1953). Jung argued that he had no theory about dreams, but that the primary

role of dreams was in facilitating people's individuation process, wherein people come to know more about themselves (Jung, 1974). Calvin Hall defined a dream as a succession of images, predominantly visual in quality, which are experienced during sleep, having one or more scenes with several characters in addition to the dreamer, who are usually involved in sequences of actions and interactions (Hall, 1953).

The nocturnal dream appears to be a universal altered state of consciousness in all normal humans, who only differ regarding the degree to which they recall their dreams (Tart, 1969). Dream experiences can not be shared with other people during the dream state, as people usually are able to do during the awake state. Given that, Krippner, Jaeger, and Faith (2001) define dreams as any reported imagery or other mental/emotional content that the dreamer claimed to have experienced during sleep. Sharing dream reports was a habitual practice among some people in the past, who believed that relevant information could be revealed when sharing their dream experiences (Krippner, 1990). One of the factors that could influence dream recall is the community of the dreamer since the value given to the dream itself and the dream sharing work could facilitate the process of recalling naturally their dreams. However, dream sharing activity could also lead people to exaggerate their dreams making them more interesting or special, and that has to be taken into consideration. There is always the possibility that reported dream experiences might be more fantastic than the dream experiences themselves, however it is difficult to assess that having no access to the experience itself but only to reported claims of it.

Dreams are dynamic and versatile, and people are not able to predict when they will occur or even what their dream content will be. Furthermore people are

unable to choose in advance the content of their dreams or, in most cases, to have consciousness of dreaming during a dream when it is happening (lucid dream). Dreams can be very pleasant or terrifying (nightmares), and can even switch from one to another so quickly that one can awake very excited or sometimes even threatened as a result. The experience can be so real that one would only realize he is actually dreaming when he finally awakens. It is believed that the origin of the word 'dream' evolved from the Indo-European term 'dreugh', meaning 'deception' (Strauch & Meier, 1996).

Despite dreams being an altered state of consciousness that appears to be experienced by all humans, some people claim to be able to remember their dreams every morning while some people claim they never dream. Montasser and Schredl (1996-97a) reported that normal dream recall may occur about once every two days, and that every person might experience various dreams during one night. Moreover, infrequent dream recall might be partially conditioned by people's cultural bias against discussing dreams (Ullman et al, 1989). One can speculate that dream recall may or may not occur regularly depending on the context, environment or depending on some other factors. For example, if the person lives in a busy city and needs to wake up early every morning to work, having little time to dress, to have breakfast and to take the bus to work, it would not be surprising that this person might dream every night but not remember any of them. However, if the same person is in another context, for instance, without the need to wake up early and so on, he or she would probably have much more dream recall than before. Perhaps because he or she may have more time to think about their dreams in the morning, and then might have more chance to recall them. Moreover, factors such as nocturnal awakening, sleep quality

and focusing on dreams in the morning, as well as cultural aspects, appear to play a major role in explaining variability in dream recall (Montasser & Schredl, 1996-97b). Doubts about how often people dream, when dreams happen, and how long they last, persisted until suitable methods of measuring these issues started to be available.

In 1953, a student from the University of Chicago, Eugene Aserinsky, and his professor Nathaniel Kleitman, were studying cortical activity during sleep when they discovered that rapid eye movements (REM), very similar to waking ocular activity, appeared during their experiment (Aserinsky & Kleitman, 1953). During their study, they found that clusters of adult eye movements lasted anywhere from three to fifty-five minutes, and they began to investigate what this pattern might mean. They speculated that participants might be looking at some kind of internal landscapes or events, and woke up participants during these periods of eye movement in order to ask them whether they had been dreaming. From that, they got detailed dream recall descriptions, and in order to verify whether dreaming was correlated to presence of REMs, they woke up participants in periods of no REMs present, finding that the majority of them claimed that they were not experiencing a dream. Those major discoveries led scientists to measure dreams' physical correlates and also to collect dream reports at the laboratory by awakening participants during the REM period, and had an important role in bringing about a new era of experiments. The discoveries also had an important role in the parapsychological study of dreams leading to a new era of experiments and discoveries, such as the Maimonides Laboratory ESP dream studies, presented later.

Some dream theories that helped to expand, or provide different perspectives on the understanding and awareness of dreaming and its possible

significance in our lives are briefly presented now. In 1900, Freud's theory of dreaming (Freud, 1953) considered that all dreams represent wish fulfilment mainly of repressed desires, for instance, sexual desires. Freud pointed out that the wish fulfilment is usually unacceptable to the dreamer, and that the dream and its meaning (the latent content) are usually distorted into a more acceptable form (the manifest content) by the time the dreamer becomes consciously aware of the dream. Freud suggested that dreams can provide vital information about the unconscious thoughts and feelings of the dreamer, and that psychoanalysis can be used to uncover the latent content of dreams, working out the meaning of various dream symbols. For instance, according to Freud, a cigar might be a symbol of a penis, but he pointed out that sometimes a cigar is only a cigar.

In the mid-1950s, Ullman postulated a theory of vigilance and dreaming (cited in Ullman, Krippner, & Vaughan, 1989) suggesting that the dream consciousness is an elaborate form of orienting activity designed to attend to, process and respond to certain aspects of residual experience, having an end point in either the continuation of the sleeping state or its termination and consequence transformation to awakening. The central idea of the vigilance theory is that the dreamer makes an emotionally determined decision as to whether it is safe to continue sleeping. Regarding psi, the 'psi vigilance' theory is that "during the REM dreaming state the human mind is most susceptible to psi impressions which, in turn, are incorporated into the dream" (Ullman et al, 1989, p. 178). During sleep humans are in their helpless state being vulnerable, for instance, to attack. Thus, the idea is that during dreaming state people scan not only their internal environment but also their 'psi field' in order to learn if there are any hostile or threatening influences

external to themselves with which they must deal. As such, it is pointed out that the dreaming state may, because of its linkage to a primitive danger-sensing mechanism, provide the most favourable altered state of consciousness for ESP. Ullman further suggests that the 'psi vigilance' dreaming state might, for some people, also result in creative dream solutions to problems.

In 1953, Hall's cognitive dream theory (Hall, 1953) referred to dream images as the embodiment of thoughts. Hall made a distinction between perception and conception, where perception occurs when somebody looks at a frozen lake, and conception when somebody thinks about the frozen lake. He pointed out that the invisible process of conception becomes visible when transformed into dream images, which must be translated into their referent ideas to interpret dreams. He also pointed out that if content analysis is made of the manifest dream, it is possible to determine what kind of conceptions exist for the dreamer.

In 1958, Adler (Adler, 1958), proposed a theory that sleeping and waking thought are not totally incompatible with one another. Adler suggested that one must recognise the essential continuity of all forms of thought, and that although dreamers maintain fewer relations with reality, there is no complete break and they still have contact with it. He also pointed out that the instigation of dreams is not always related to sexual or hostile motives, any more than waking thought is generally dominated by such motives. Adler argued that the dream cannot be a contradiction of waking life, but always consonant with one's waking life style. People dream when they are troubled by something, and when unresolved problems from waking life press upon them during sleep; the task of dreams is to solve such problems. What instigates the dream then is a problem from conscious experience, not a repressed

problem of whose existence the waking organism is totally unaware. Adler considers day residues important in themselves as representations of waking concerns, and that in the dream, day residues are transformed or worked over to help working a waking problem.

In 1977, Hobson and McCarley (1977) developed a dream theory based on information about the physiological activity of the brain during dreaming, referred to as an activation-synthesis theory. They suggested there is a high level of essentially random brain activation during REM sleep, and that dreamers try to make sense of their random brain activation by synthesising or combining the information contained in the bursts of neural activity. This theory accounts for the incoherent nature of many dreams, but not for the existence of coherent dreams.

In 1983, a reverse-learning or unlearning dream theory by Crick and Mitchison (1983) suggested that the main function of dreaming was to get rid of useless information stored in the brain. Regarding dream function, this theory would explain in part why people seem to forget 95% of dreams. However, it considers dreams as relatively meaningless, and that does not explain why so often people's dreams are meaningful or significant.

In 1985, a cognitive theory of dream by Foulkes (1985) suggested, in accordance with Freud's wish-fulfilment theory, that dreams express the dreamer's current concerns, usually expressed in a symbolic way rather than directly. For instance, a man who hates his boss because the boss is always after him in work complaining, may dream about a monster that follows him wherever he goes in the dream. The cognitive theory fits for dreams resembling current concerns, but not for those that are simply meaningless.

Recently, in 1997, a dream theory by Winson (cited in Eysenck, 2000, p.112), that resembles Foulkes' cognitive theory, suggested that REM sleep is "the information processing period when memories and events of the day are juxtaposed with things that happened in the past to form a strategy for survival". As such, we would assess which better actions we would take in similar situations in the future. Winson pointed out that "all the indications are that REM sleep plays an important part in our survival" (p.112). This theory gains some support from findings that people who are deprived of REM sleep find it difficult to remember the key events of the previous day. However, according to this theory, we would be expected to remember most of our dreams in order to learn from them, but that is not the case and may suggest that dreams do not provide useful guidance for future actions.

None of these theories provide us with a complete picture regarding the understanding of dreaming and its possible significance in our life's dreams. However, they provide different possibilities for understanding dreaming and its possible significance to people's lives, and perhaps if different dream theories are taken into account, better understanding of dreaming and its significance may be achieved.

Dream Research in Parapsychology

The history of parapsychology has involved the concept of ESP in dreams from its earliest days. For instance, a survey of paranormal spontaneous cases was reported in 1886, the two volume work *Phantasms of the Living*, where 702 cases were collected which appeared to have some sort of evidence of ESP (Gurney, Myers

& Podmore, 1886). Some were hypnagogic or hypnopompic experiences as well as sleep and dream ones. Because of the difficulties of classification, these cases were called 'borderline cases'. An examination of 110 'borderline' cases reported in the work *Phantasms of the Living* was carried out by Dale (1946) who found that within 84 of these cases, 25 per cent occurred in a hypnagogic state, 15 per cent in a hypnopompic state, and 60 per cent in a sleep state.

Despite the fact that most of the dream imagery appears to arise from the dreamer's recent and remote past, ESP dreams suggest that some internal events might be incorporated more directly into dreams. Because dreams appear to be a common state for psi information acquisition, researchers started to create experimental research methods to investigate the possible manifestation of ESP in dreams. As previously seen, the earliest dream ESP experiment was reported in 1819 by Weserman (cited in Eisenbud, 1970). Weserman, serving as a sender, tried to project his 'magnetic influence' into the dreams and thoughts of friends at a distance. He claimed to have obtained five successful sessions and concluded that dream reports could bring some information of the stimulus, however mixed with other information. That appears to be the case to date in ESP manifestation in general, being considered to be very unlikely to duplicate the sender stimulus. One of the problems with the Weserman study is that there is not enough information and details of the procedure he used to allow evaluation of possible flaws and problems. For instance, it is not clear whether procedural instructions were given to the participant and what those were, whether the participant had any knowledge about the experimenter location during the experimental night, whether the experimenter

took any measures to make sure the participant stayed in her home and was not able to have access to the target information, and so on.

Turning now to a new era of dream research, which started following the technological developments on sleep and dreaming physiology during the 1950's, Montague Ullman, in the 1960's, started to consider the possibility of application of new laboratory approaches to the study of psi manifestation in dreams. As a result, the idea of studying telepathic dreams by applying the REM technique for the monitoring of sleep and dreams was carried out by Ullman on the premises of the Parapsychology Foundation, where experimental sessions were carried out once every two weeks for a year and a half (Ullman & Krippner, 1970). Ullman's experimental sessions demonstrated that "the application of the REM dream monitoring procedure to parapsychological research was technically feasible and sufficiently effective in bringing about presumptively telepathic inclusions into manifest dream content to warrant its further refinement and use" (Ullman & Krippner, 1970, p. 62). During the 1960's, laboratory dream experimental studies were carried out showing evidence of ESP in dreams (e.g., Krippner, Ullman & Honorton, 1968; Ullman & Krippner, 1968a-b; Ullman, Krippner & Feldstein, 1966; Ullman, Krippner & Honorton, 1968; Ullman, Krippner & Ullman, 1971). The most important dream experimental series to date which provided evidence of ESP in dreams, is the Maimonides experimental dream series of telepathy tests (Ullman & Krippner, 1970). Because of the historical relevance of these dream series and to illustrate about their method, some of the Maimonides experimental series are presented next.

The Maimonides ESP Dream Studies

In 1962, the dream laboratory of the Maimonides Mental Health Center was established by its psychiatry department chairman, Montague Ullman, becoming the only sleep laboratory dedicated exclusively to parapsychological research at that time. In Ullman's psychoanalytic practice, many patients experienced and reported on at least one occasion a dream that might be called presumptively telepathic (Ullman & Krippner, 1970). As such, Ullman's observations in his psychiatric practice, regarding apparent telepathy expressed through the content of some dreams which were reported by his patients, led him to the Maimonides experiments. The idea was to investigate whether or not this apparent phenomenon would be detected in a sleep laboratory under controlled conditions. Ullman, helped by Sol Feldstein, worked out the details of a protocol that was used in general as a foundation to the latter series. The psychologist Stanley Krippner joined the laboratory staff in 1964, as the director of the laboratory, just before the first formal series began.

The basic experimental design, based on the protocol developed by Ullman and Feldstein, was as follows: a participant would come to the laboratory in order to spend the night there and act as a receiver (the person who would try to receive a telepathic message). The participant would meet and also talk with the person who was going to act as the sender (the person who would try to send or transmit a telepathic message), as would meet the two experimenters for that night, and procedures were explained in detail. When the receiver participant was ready to go to bed, he or she was wired up in the usual way for monitoring of brain waves and eye movements, having no further contact with the sender or the sender's experimenter until after the session was completed. The experimenter monitored the

receiver's sleep and at the beginning of each period of rapid eye movement (REM) notified the sender by pressing a buzzer.

While the receiver was sleeping in a locked sound-attenuated bedroom with sleep stages and spontaneous brain activity being monitored by EEG, the sender was spending the night in a third room, acoustically attenuated and 32 feet, 98 feet, or 14 miles from the sleeping room, depending on the study, trying to send a target stimulus to the receiver during the night. The target was randomly chosen from a pool of potential targets as the message to be concentrated on, and the procedure for random choice of the target from the pool has been designed to prevent anyone else from knowing the identity of the target. The packet containing the target was opened by the sender after being isolated for the night, at the start of the experiment. When the sender was signalled that the receiver had started a REM period, the sender concentrated on the target, seeking to communicate it telepathically to the receiver and thus influencing the receivers' dream. The receiver had instructions to try receiving this message, but clairvoyance and telepathy are both possible and it might be the case that the former was used. Thus the receiver could have picked the information up directly from the target picture. When approaching the end of each REM period, the receiver was awakened (by intercom) by the monitoring experimenter and asked to describe any dream he had experienced. After the night's sleep the receiver was interviewed and asked for impressions about the identity of the possible target, neither receiver nor experimenter at that time knew the target identity. Finally the experimenter read his notes of the dreams asking the participant to add, change or associate information to his dream. The experimenter utilized his notes of the dreams to refresh the receiver's memory and review their dreams in the

morning, adding the sender's associations, tape recording everything. While the experimenter was still unaware of the target content, a group of twelve art reproduction duplicates, eleven distractor plus the target randomly chosen, was used so the receiver could rank the pictures regarding how strongly each corresponded to the dream content. Independent judges were used to carry out an additional evaluation as well, using copies of the targets with typescripts of the participant dream's report and associate material. Independent judges were blinded as to the target identity. This was the basic dream experimental design developed by Ullman and Feldstein.

The Maimonides research was composed of carefully planned experiments. They took into consideration that dreams contain a variety of contents which, one can say, could contain passages of striking similarities to almost any picture with which they might be compared. Thus, they have judgements of similarity between the dream content and the actual target for the night as well as judgements of similarity between dream content and each of the distractors. The experimental targets used were usually art prints of famous paintings selected on the basis of simplicity and distinctness of detail so as to enhance recognition of any correspondence between dream content and pictorial content. The majority of the sessions had judges receiving the transcripts of dreams and interview, plus a copy of the target pool by mail without having any contact with the experimenter.

The Maimonides group reported several studies, and the series of experimentally-induced telepathic dreams, using EEG-REM monitoring techniques, were carried out by Ullman and colleagues following, in general, the protocol presented above with eventual alterations. The main hypothesis was that the

receiver's dream protocol for any experimental night would reflect the influence of telepathy by having more correspondences from the target focused by the sender, in the receiver's dream content. The reader must keep in mind that although testing for telepathy, it might have been the case that clairvoyance took place during the sessions. Several series were designated in advance as pilot work and carried out by the Maimonides Laboratory researchers in order to explore potentially useful procedures and techniques to achieve that, and to screen potential participants. To summarize the early results, these pilot series can be separated into five major groups composed of: telepathy sessions with 72 binary 'hits' and 21 'misses', Mean Chance Expectation (MCE) = 46.5, clairvoyance sessions with 12 binary 'hits' and 4 'misses' (MCE = 8), precognition sessions with 2 binary 'hits' and zero 'misses' (MCE = 1), non-REM sessions with 3 binary 'hits' and 2 'misses' (MCE = 2.5), and napping sessions with 22 binary 'hits' and 10 'misses' (MCE = 16) (Ullman, Krippner, & Vaughan, 1973). The pilot telepathy sessions collectively were independently statistically significant ($p < .0001$), confirming the ESP hypothesis, as were the pooled results for the other types of pilot sessions ($p < .005$). These pilot sessions provided evidence suggesting ESP information acquisition in dreams, and showing REM dream monitoring procedure as technically possible and effective for dream parapsychological research. That led to the formal experimental dream series. As previously mentioned, the Maimonides group reported several studies. To summarize, these studies are presented in Table 1.

Table 1
Summary of Maimonides Results on Tendency for Dreams to be Judged More like Target than like Non-targets in Target Pool-

Series	Judges' score		Subjects' score		z or t resulting from judgements		Sources
	Hit	Misses	Hit	Misses	Judges	Subjects	
GESP: Dreams monitored and recorded throughout night; agent 'transmitting' during each REM period							
A. 1st screening	7	5	10	2	z = 0.71 ^b	z = 1.33 ^b	Ullman, Krippner & Feldstein (1966)
B. 1st Erwin	5	2	6	1	z = 2.53 ^b	z = 1.90 ^b	Ullman et al (1966)
C. 2nd screening	4	8	9	3	z = -.25 ^b	z = 1.17 ^b	Ullman (1969)
D. Posin	6	2	6	2	z = 1.05 ^c	z = 1.05 ^c	Ullman (1969)
E. Grayeb	3	5	5	3	z = -.63 ^c	z = 0.63 ^c	Ullman, Krippner & Vaughan (1973)
F. 2nd Erwin	8	0			t = 4.93 ^a		Ullman & Krippner (1969)
G. Van de Castle	6	2	8	0	t = 2.81 ^a	t = 2.74 ^a	Krippner & Ullman (1970)
H. Pilot sessions	53	14	42	22	z = 4.20 ^b	z = 2.21 ^b	Ullman et al (1973)
Precognition: Dreams monitored and recorded throughout night; target experience next day							
I. 1st Bessent	7	1			t = 2.81 ^a		Krippner, Ullman & Honorton (1971)
J. 2nd Bessent	7	1			t = 2.27 ^a		Krippner, Honorton & Ullman (1972)
K. Pilot sessions	2	0			z = 0.67 ^c		Ullman et al (1973)
GESP: Dreams monitored and recorded throughout night; agent active only at beginning or sporadically							
L. Sensory bombardment	8	0	4	4	z = 3.11 ^b	z = 0.00 ^c	Krippner, Honorton, Ullman, Masters & Houston (1971)
M. Grateful Dead	7	5	8	4	z = 0.61 ^c	z = 0.81 ^c	Krippner, Honorton & Ullman (1973)
Clairvoyance: Dreams monitored and recorded throughout night; concealed target known to no one							
N. Pilot sessions	5	3	4	5	z = 0.98 ^b	z = 0.00 ^b	Ullman et al (1973)
GESP: Single dreams							
O. Vaughan, Harris, Parise	105	98	74	79	z = 0.63 ^c	z = -.32 ^c	Honorton, Krippner & Ullman (1972)

Note: This table is presented in the work of Ullman, Krippner and Vaughan. (1989). *Dream telepathy: Experiments in nocturnal ESP*. North Carolina: McFarland & Company, pp.196-197. For some series, the published source does not include measures entered in the table, and mimeographed laboratory reports were also consulted. Superscripts indicate which measure was available in order of priority. ^aRating, ^bRanking, ^cScore (count of hits and misses)

The Maimonides studies suggest that telepathy in dreams can be demonstrated in a laboratory setting, and the authors claim that elements of orientation, expectancy, and volition seems to be important for paranormal effects to occur in dreams. Moreover, the authors claim male receivers appeared to be more effective telepathically than female receivers, and target stimuli which were emotional in nature seemed to be more effective than non-emotional material. Finally, altered states of consciousness seemed to be favourable for psi manifestation in the laboratory as well as in real-life situations.

The Maimonides Dream laboratory closed in 1978 due to lack of funding, After the Maimonides dream laboratory closure, a statistical assessment of the 450 Maimonides dream telepathy sessions found the overall binary hit rate to be 63 per cent ($MCE = 50\%$) (cited in Radin, 1997). Two sleep laboratories reported attempted replications. The sleep laboratory of the University of Wyoming conducted two experiments which yielded results approximately at chance level, slightly below in one study (Belvedere & Foulkes, 1971), and slightly above in the other (Foulkes, Belvedere, Masters, Houston, Krippner, Honorton, & Ullman, 1972). The sleep laboratory of the Boston University School of Medicine's attempt at replication yielded results that were not significantly positive (Globus, Knapp, Skinner & Healey, 1968). In the Foulkes et al (1972) replication attempt, some procedural variations of the Krippner et al (1971) original series took place as well. In the original series four receivers were selected on the basis of reported spontaneous telepathic experiences and four on the basis of a positive emotional relationship with the sender. In the Foulkes and colleagues (1972) series, potential receivers were solicited for an experiment on dreams and telepathy where fifteen receivers were selected on the

basis of reported telepathic experience, positive attitude toward ESP, and self-reports of good dream recall. Another variation between these series was the distance between the sender and the receiver that was in the Krippner et al (1971) series of 14 miles, and in the Foulkes et al (1972) series approximately of 2000 miles.

The conditions surrounding the Globus et al (1968) replication attempt are not clear, due to an insufficiently detailed report of their study. One can speculate that the environment and motivation surrounding participants in the Globus et al replication attempt might not have been the same as the Maimonides series and might have not been particularly conducive. Some simplified dream studies conducted in parapsychology after the Maimonides Research are presented now, to provide us with a picture of various ways of conducting contemporaneous ESP dream studies.

Simplified Dream GESP Experiments

Regarding dream-psi work, the Maimonides dream research is considered to be the most important research in providing laboratory evidence of psi through nocturnal dreams. However, the Maimonides dream research involved expensive sleep laboratory equipment, well trained personnel, and having participants sleeping at the laboratory. Nevertheless, some small-scale studies carried out without using expensive sleep laboratory facilities, equipment, and so forth, appeared to support the more convincing Maimonides work. Some simplified dream studies are presented now, conducted under controlled experimental conditions.

In 1975, Braud conducted a study with a procedure that followed three different experiments designed to investigate the possibility of conducting long-distance dream telepathy experiment by mail, comparing directly the relative

effectiveness of dream, hypnagogic and hypnopompic imagery as vehicles of psi awareness (Braud, 1976b). Participants attempted to receive a telepathic target as they were falling asleep (period of time said to contain hypnagogic imagery), while asleep and dreaming, and early in the morning while awakening (period of time said to contain hypnopompic imagery). Fifty participants participated in the first investigation, using natural (their own homes), instead of an artificial laboratory environment. The second and third investigation had ten participants each. The results were not significant for the first and third experiments, and were statistically significant for the second experiment.

This series of studies suggests an alternative way of conducting research without the use of expensive and complex sleep laboratory facilities is viable and supportive to the Maimonides work. The idea of testing participants in their own environment is very interesting because of the convenience, and the low costs of such a condition. However, consideration is needed, as their own environment might sometimes make it harder to concentrate and focus on experimental goals compared to the laboratory environment.

Another simplified dream study was conducted by Child, Kanthamani and Sweeney (1977). The first experiment had a sender, a receiver, and a co-ordinator. The target pool consisted of coloured postcards, mostly paintings, which were selected, for the trial, from a large supply, using a random number table. The sender's role was to focus once on the target, in his apartment, for a period of around 10 minutes, starting at 10:45 p.m.. The receiver was preparing to sleep in her apartment, which was a mile away from the sender. The idea was to have the receiver open to impressions during the period before sleeping, and to remember her dreams,

recording both impressions and dreams in the morning. After a period of eight nights of experiment, the receiver, sender, and co-ordinator each independently ranked the eight targets in relation to each night's protocol. Child and colleagues' second experiment followed essentially the same procedure as the first experiment, presented above, and lasted for seven non-consecutive nights. The summed rankings of the three judges showed significant differences from mean chance expectancy, regarding the correspondence between protocol and target direction (ranked 1-4). Experiment 1 showed a summed rankings average for all three judges of 10.37, with chance expectancy of 13.5 ($t(7) = 1.87$). The summed rankings average in experiment 2 was 8.85, with chance expectancy of 13.0 ($t(4) = 2.69$). They used the unweighted Guttman method to pool the results of the two studies, obtaining $z = 2.55$, $p = .018$, 2(t). Despite having just one participant for both experiments, Child and colleagues pointed out that the significant findings of this study demonstrates the Maimonides method, developed by Ullman and Krippner, as psi-conducive even if in a simplified form. Moreover, it is suggested that such adaptation may allow researchers to carry out systematic dream studies at little or no expense except of time and methodological care while a sleep dream laboratory could become not viable for the opposite reasons.

From 1979 to 1982, another simplified dream study was conducted by Markwick and Beloff. (1982). This study involved a dream and ESP study between Edinburgh and London through the period 1979-1982, using Markwick as the participant and a postal protocol (Markwick & Beloff, 1982). The study investigated psi manifestation in dream imagery in a variety of free-response/forced choice designs under clairvoyance and GESP conditions, totally 100 trials. The target material

consisted of art prints, memory cards, household objects, and specially selected objects. The judging pool contained five randomly compiled options. Beloff prepared pools of five pictures or object-specifications sending a duplicate to Markwick in London, and informing her, prior to the experiment, that a target was to be set up. The target was randomly selected by Beloff, who then placed it in a box. During one or more nights, Markwick was instructed to record significant-feeling impressions, to unseal the duplicate judging pool, to rank-order the five target options, and to post the dream protocol responses to Beloff in Edinburgh, who then informed her about the results. The authors felt that a number of features were associated with psi-effects: auditory hypnagogic imagery, dream-meetings with Beloff, telephone dreams, sudden awaking, bizarre or surprising imagery, and first impressions.

They found overall results of modest significance, rank-sum = 273 (25 rank 1, 20 rank 2, 24 rank 3, 19 rank 4, 12 rank 5), MCE = 300, deviation = -27, $p = .030$ (1t). It is pointed out that Markwick was a sceptic minded working under an tight regime with a reputed negative experimenter. They therefore considered these as auguring well for a simple approach to dream research.

I have reviewed evidence to suggest that simplified and inexpensive approaches to dream research are effective. Therefore, dream research conducted without the use of laboratory sleep monitoring equipment, remains a vital area of investigation and a promising technique for experimental study of the ESP question. More recent studies involving dreams are presented now, following the idea of simplified and inexpensive studies using automated free-response to generate and expose the target for the dream experiment.

A clairvoyance design GESP dream study was conducted by Dalton, Steinkamp, and Sherwood (1996), in contrast to the telepathy design of the Maimonides research. The majority of dream studies in the past had used art prints or projector slides as target material for their experiments. However, ganzfeld research has suggested that dynamic targets (video clips) are better as target material than static targets (Honorton, Berger, Varvoglis, Quant, Derr, Schechter & Ferrari, 1990). Therefore, this study used video clips as targets for the dream experiments. The targets were randomized and selected by the Edinburgh auto-ganzfeld laboratory computer, and were shown in a locked room in the laboratory during a pre-specified period on the night of the experiment, at three a.m. for each trial.

Participants were instructed to dream at home, writing their dreams down as soon as they awoke spontaneously during the night or in the morning. They were also instructed to bring their hand-written dream report to the laboratory the day after the experiment for the judging session. Three participants participated in this study, which were also the experimenters of the study, for 32 trials. Thus, for each trial, one served as experimenter and took part along with the other two participants. After the night of the experiment, participants came to the laboratory for a judging session, and brought their dream reports. All three remained blind to the identity of the target. They used the same judging procedure as Carpenter (1987) to achieve a 'consensus vote' in a group setting. After participants wrote down their final ratings and ranks, each shared their night's dreams and then each reported the rating and rank they had assigned to each clip. Finally, the ranks for each clip were added up and the clip with the lowest score was given the first place, the next lowest was given the second place and so on. The session data were printed out and the session closed.

This study had a success rate of 47 per cent having 15 hits out of 32 trials, $p < .006$ (MCE = 8), which conceptually replicates the success of the Maimonides dream studies, without the facilities of a formal dream laboratory. The authors pointed out that this study needed minimal time expended by the experimenter and by the participants for the whole experiment, and that conducting psi research in the privacy of the participant's own home is a viable proposition.

Following the above study, Sherwood, Dalton, Steinkamp, and Watt (1998) decided to conduct another study involving a partial replication and extension of it. The purpose of this study was to explore whether individual versus group consensus judging procedures, and the emotionality of the dynamic target video-clips, would affect the identification of the target in a free-response dream GESP study. The study had two participants located in Edinburgh who served as experimenters as well, and a third participant in Derby, England. Twenty-eight trial nights were conducted, having a one minute video-clip being shown from 3.00 to 4.30 am. for the night of the experiment. Participants were instructed to sleep in their own homes for the night of the experiment and to record their dreams upon awaking. They saw the four video clips from the selected target pool, the target itself and three distracters, in the morning following the dream experimental night. The Derby participant saw the video clips through the Internet. They were instructed to judge the correspondences of their dream content with the clips. Participants performed better with emotional as opposed to neutral targets in this study, and both as group and as individuals, obtained a greater proportion of direct hits with negative targets. The individual consensus judging consisted of participants individually judging and giving ratings and ranks to the video clips; the ranks for each clip were added up and the clip with

the lowest score was given first place, the next lowest was given second place and so on. After participants judged correspondences between the dream mentation and the four video clips individually, they then discussed their own and each other's mentation until they reached a consensus regarding which clip they considered to have been the target, which reached second and so on. They found that participants using the group discussion consensus judging procedure obtained 12 hits out of 28 trials ($MCE = 7$) which is significantly higher than the MCE (exact binomial $p < .03$, $ES(h) = .38$), and that participants using the objective consensus procedure obtained 11 hits out of 28 trials ($MCE = 7$), which is approaching a significant deviation from the MCE (exact binomial $p = .0679$, $ES(h) = .030$). Individually, none of the participants obtained a significant score.

There is no evidence to suggest that group consensus judging would improve the identification of the target in a free-response dream GESP compared to the objective consensus procedure. Moreover the group consensus judging needed participants to be available at the same time and place and could be very time consuming. Individual judging is a more straightforward procedure.

A further GESP dream study involving a fairly successful replication of the previous ones was conducted in California by Dalton, Utts, Novontny, Sickafoose, Burrone & Phillips (2000). The last four acted both as experimenters and as participants. The procedure of this experiment is parallel to the previous ones. They obtained 7 hits out of 16 trials ($MCE = 4$), a direct hit per cent of 44%, $p < .01$, $ES(h) = .40$. The results are significant, and it seems to me that these studies' procedure add something very important to the ESP dream research, the convenience of having the target generation and exposure administered automatically, as well as

the judging procedure conducted in the lab. The results of these three studies conceptually replicate the success of the Maimonides dream studies suggesting that the combination of using automated free-response ESP facilities and having participants sleeping and dreaming in their own homes environment, is a promising idea. In fact, one aspect that might have contributed to the success of the simplified GESP dream studies is that all sessions were conducted in the familiar environment of participants own homes without the inconvenience of sleeping in a formal dream laboratory and having a more relaxed and informal atmosphere. The present study dream condition, as will be presented latter, is similar to the studies presented above (Dalton et al, 1996; Sherwood et al, 1998; Dalton et al, 2000), and follows the same rationale of having participants sleeping and dreaming in their own homes environment.

Discussion and Conclusion

Dreams are altered states of consciousness experienced by all people to various degrees, and accounts of dreams related to psi phenomena have been found throughout history. The dream experiments conducted under carefully controlled laboratory conditions at the Maimonides Medical Center provided experimental evidence suggesting that dreams may actually be influenced by ESP. The Maimonides research yielded highly statistically significant results having the combined outcome of all series placed at the $p = .001$ level (1t). However, the Maimonides series has been criticised by sceptics, as Hansel (1989), who questioned its results claiming that the most likely reason for the Maimonides positive results was the presence of a loophole in its design, and that the failure to replicate the results was because the

experimental procedure of those replication attempts were tightened up with more rigorous experimental conditions. Hansel speculated that “it is unlikely, but not impossible, that a subject should be in collusion with one or more agents to fake the experiment” (Hansel, 1989, p. 147).

The Maimonides series provided evidence for ESP in dreams, but there is still a problem to deal with, that a lot of the work in the past didn't expend a lot of time on the mentation itself. Largely what was found was there seems to be an ESP effect on the dream condition, but there is little work done on the content of the dreams themselves and that work might be important to tell us, for instance, a little bit more about how the message was coming through if it is coming through.

Two sleep laboratories reported attempts of replications of the Maimonides series, and as previously seen, none obtained statistically significant results. Hansel (1989) speculated that there might have been problems with the Maimonides protocol, such as a leak of some sort, and that because of that they got significant results. However, there is no evidence to suggest that the Belvedere and Foulkes (1971), Foulkes et al (1972), and Globus et al (1968) replication attempts' results were not significant because they finally did the experiment properly (Child, 1985). It appears to be more likely that there were problems with these studies, such as procedure variations. For instance, in the Belvedere and Foulkes (1971) replication attempt, the receiver, Robert Van de Castle, who also participated in the Krippner and Ullman (1970) series, indicated at the conclusion of the series that he felt the change in procedure may have adversely affected his performance, such as that in the prior series he had run one experimental night at time, having a period of 44 weeks to complete the series, while in the present series he had nine nights to be run in a period

of 2 weeks. On two occasions the receiver also complained that the target pool was not sufficiently heterogeneous to allow good discrimination. It might be the case that telepathic dream influence depends to some degree upon a confluence of favourable personal and interpersonal conditions, and that might have affected the outcome of this replication series. As mentioned before, the conditions surrounding the Globus et al (1968) replication attempt are not clear and the environment and motivation surrounding participants might not have been the same as the Maimonides series and might not have been particularly conducive. Finally, inter-laboratory and inter-investigator problems of replicability are clearly present in the replication series above, but it is not clear which factors might have influenced the disparity between the original and the replication series results. Another issue is that there was no discussion of whether the dream reports of these replicate series were qualitatively different from those of the Maimonides series. Such a discussion is an important part of future dream research and is the kind of issue I am going to try to deal with in my own experiments so that, in the future, people will be able to look more richly at qualitative information about dreams in any particular psi study.

No other Maimonides replication attempts have been published to date and that might be more related to the expensive costs of such a sleep laboratory than perhaps on the results of the replication attempts presented. It is considered by the majority of parapsychologists, though, that the Maimonides experimental series of telepathy tests were the most important series of ESP dream experiments conducted to date providing evidence of ESP in dreams, yet some of them failed as well (e.g., Ullman, 1969; Krippner, 1969). Simplified dream studies have been reported without the use of sleep laboratory facilities and which are financially cheaper and easier to

conduct. Although they were not procedural replications of the Maimonides series, some of their results are consistent with the main results.

In conclusion, it has not been learned from ESP dream research how the ESP information would manifest in dreams, why dreams do not duplicate the target information but mix it with other information, why one participant would recall more psi-related information than others, and so on. In addition very little has been done in ESP dream research regarding content analysis of reported dreams, but a few previous attempts to conduct ESP dream content analysis will be discussed in chapter 6. Nevertheless, it has been learned that dreams continue to be an experience through which ESP might express itself. The Maimonides researchers claimed that “people who are open to the possibility of ESP, are relatively comfortable in the laboratory, and are able to remember their dreams, will more than likely dream telepathically” (Ullman et al, 1989, p. 161). Moreover, they claimed that an important ingredient in the success of experiments in dream telepathy appears to be the use of potent, vivid, and emotionally impressive human interest pictures to which both sender and receiver can relate. The Maimonides researchers suggested that if the dream was vivid, coloured, detailed, and somewhat puzzling to the dreamer, and didn’t ‘fit’ into his dream pattern or reflected recent activity, it could be that the dream was being influenced by ESP. On the other hand, if the dream was about being wired up with electrodes, about experimental laboratory situation, or identifiably has derived from a day’s residue, they expected ESP not to be operating. The Maimonides series also suggested that the active involvement of the sender, as when multisensory experience was utilised, is an important ingredient for success. Another issue was suggested by the authors, that in laboratory, men were better receivers than women. This appeared

to be in contrast to spontaneous telepathic dreams reported in the United States and Great Britain, where women were found to far outnumber men in reporting their ESP dreams. However, it is argued that this disparity may be in part because of the cultural context in which women were allowed to talk about their ESP experiences and men considered ESP as fit for women and children, and that given the cultural attitude toward ESP, the sexes might have equal potential at ESP dreaming. In addition, it is argued that women may have been at a disadvantage in the laboratory setting because they perhaps felt more nervous about sleeping in a strange bed and having male experimenters walking in and out of their bedrooms. As such, the Maimonides team noticed that women had a harder time than men in going to sleep in strange surroundings, suggesting that sleep laboratory situation may provoke more anxiety and nervousness in women than in men participants. In addition, when a woman is a receiver for the first time, results might tend to be negative either when the sender a stranger or a friend, but specially when is a stranger. Given that, it is interesting that in the Foulkes et al (1972) study in Wyoming, all receivers were women, all in their first attempt at dream telepathy, and all working with a sender who was a stranger to them, and that might have been an important factor regarding the non-significant results they obtained. The Maimonides team suggested that the quality of openness was considered crucial for a successful telepathic receiver. As such, they argued that perhaps the most important qualification for being a telepathic dream receiver might not depend upon the receiver's waking psychic ability or previous ESP experience, but on the willingness to accept the dream ESP experience.

The results of ESP dream experiments so far, support dreams as a prominent vehicle for perhaps enhancing psi acquisition for the individual, and for

conducting ESP research. Nevertheless, the costs involved in dream laboratory research, with a major amount of time, qualified personnel, dream laboratory facilities, and equipment, rendered the Maimonides kind of research beyond the reach of many investigators. The need for a faster and cheaper technique which does not depend upon dream recall became apparent. Then a method that allowed researchers to conduct an experiment that induces a dream-like state, through sensory deprivation, and that provided a free-response report of participants experiences, in present time and not depending on dream recall, motivated three researchers to begin a new series of experiments using a new technique in parapsychology, the ganzfeld technique, which is introduced in the next chapter.

Finally, the overall picture is that not much is known about what is involved in the ESP dream process, and as will be seen later, content analysis was done very rarely in ESP dream studies. As such, it was not possible to learn very much about some of the actual processes that might be involved in ESP dreams. It seems that the kind of research needed to provide further knowledge about ESP dream process involves qualitative analysis of dream reports. As such, what should be done next is use tools like dream content analysis to allow further investigation of the ESP dream process in more detail. This issue will be addressed later on in the thesis as considering the design of the present study. The final chapter, chapter 8, will include a further discussion about ESP dreams and what conclusions can be learned from them.

CHAPTER 3

THE GANZFELD TECHNIQUE IN PARAPSYCHOLOGY

The role of this chapter is to review and evaluate some of the published ganzfeld experiments which were conducted using designs comparable to the one used in this thesis research. The first publications of ganzfeld experiments in parapsychology appeared 26 years ago, in 1974 (Braud, Wood & Braud, 1975; Honorton & Harper, 1974; Parker, 1975), and from that date on much work has been published. Given the variability and complexity of the designs presented in studies, it is not possible to adequately review each of these studies within this chapter. Therefore, this chapter will provide a general introduction to ganzfeld research in parapsychology and then focus on studies which are important in understanding the nature of the ganzfeld.

Introduction

As reviewed in the previous chapter, in 1972, in the Maimonides Medical Center in Brooklyn, New York, an experimental series of telepathy tests conducted in a dream-research laboratory suggested that if someone was asked to send mental images to a dreaming person, the dreamer would sometimes incorporate those images into the dream (e.g. Ullman et al, 1989). After these dream-research experiments were conducted, one of the Maimonides Center researchers, Charles Honorton, began a new series of telepathy experiments using the 'ganzfeld' technique, regarding it to be a method of reducing sensory input and inducing in the participant a dream-like state. The psychologist William Braud from the University of Houston and the

psychologist Adrian Parker from the University of Edinburgh also began to use similar methods to test the notion that such a reduction in sensory input was psi conducive (Braud, Wood & Braud, 1975; Parker, 1975). All these researchers were working independently and unaware that others were conducting similar work. As described earlier, the literature suggests that some altered states of consciousness are psi-conducive (e.g. Tart, 1975), and that progressive relaxation and a reduction of sensory input facilitates psi performance, and the ganzfeld procedure was regarded as promoting that (e.g. Honorton and Harper, 1974).

The relationship between psi phenomena and altered states of consciousness was Honorton's main area of interest, and his initial work using the ganzfeld technique was stimulated in part by the Yoga System of Patanjali (Honorton, 1980). As Honorton (1980) describes, Patanjali is regarded as the founder of the Raja system of Yoga and devoted one of the four chapters of his Yoga Sutras to a classification of *siddhis* (psychic powers). Honorton discovered that descriptions of mystical meditative and religious states often included anecdotes about psi experiences, and also that the association between reduced mental noise and the spontaneous emergence of psi was noted long ago in the ancient religious texts of India, the *Vedas*. For example, in Patanjali's Yoga Sutras, one of the first textbooks on yoga dating back at least thirty-five hundred years, it was taken for granted that prolonged practice with deep meditation leads to a variety of *siddhis* or paranormal powers. Honorton pointed out that Patanjali's views of Yoga as a process of psychophysical noise reduction was made clear in his second Sutra, as follows: 'Yoga is the inhibition of the modifications of the mind' (Honorton, 1980).

Patanjali presented eight stages of Yoga intended to successively attenuate external and internal sources of distraction. As such, Honorton found in the Raja Yoga's eight stages a progressive system of psychophysical noise reduction. Those stages are briefly presented now to illustrate their characteristics. The first five stages were designed to systematically reduce the external causes of mental distraction. The first two stages called, *Yama* and *Niyama*, refer to reduction of distractions associated with emotion and desire. The another two, *Asama* and *Pranayama*, refer to reduction of somatic distractions, and the fifth stage, *Pratyahara*, regards the detaching of attention from the sensory organs to isolate consciousness from the external perception. Once freed from external somatosensory noise, three final stages deal with the elimination of internal cognitive distractions. The elimination of internal cognitive distractions involves focusing attention on a single object or image, where each of the three stages aim to increase and deepen duration of concentration.

Honorton felt that conditions associated with the withdrawal of attention in relation to external sensory stimuli and a shift towards internal processes such as thoughts and images, might facilitate psi awareness by minimising psi-irrelevant sensory, perceptual, and somatic 'noise' that might interfere with weak psi signals. Moreover that the elimination of information inputs through conventional sensory channels should increase internally generated imagery and any psi information that might be carried by this imagery. The reduction of patterned exteroceptive input is one of the internal attention states characteristics, and like other forms of sensory deprivation, Honorton (1980) felt that ganzfeld stimulation would increase attention to internal mentation.

The elimination of patterned sensory information is achieved effectively by the ganzfeld technique in that it presents participants with a constant, non-informative sensory field. A progressive induced relaxation procedure, that appears to enhance psi receptivity, is also applied. The idea was that hypnagogic imagery produced in the ganzfeld, having participants relaxed with partial sensory deprivation induced by the homogeneous auditory and visual stimulation, would facilitate the reception and recognition of extrasensory perception in the laboratory (Braud, Wood and Braud, 1975; Honorton and Harper, 1974; Parker, 1975). Parapsychological experimentation with the ganzfeld state has been of ESP and free-response type, and it appears to be the case that the ganzfeld environment stimulates the person to attend to information generated internally. Tart (1974) pointed out that reduced sensory functioning is a major characteristic of most internal attention states. For instance, during REM sleep time the brain is as active as it is during the waking state, but information processing is inner-oriented during the former while it is outer sensory orientated in the latter (Kahn, Krippner & Combs 2000). As suggested by Stanford (1987), the experimental exploration of psi conducive states has emerged from evidence which indicates that certain altered states, particularly internal attention states characterised by reduced sensory input, may facilitate the recognition and reception of psi information. As such, it seems the case that relatively weak psi impressions might be more readily detected and recognized during periods where 'noise level' and body tension, is minimised (Honorton, 1974). Moreover, Honorton pointed out that when sensory inputs are attenuated, the number of irrelevant stimuli bombarding the participant are also attenuated, increasing the ability to detect, recognise, and respond appropriately to psi stimuli.

Honorton, Drucker and Hermon (1973) published a study involving sensory isolation techniques where participants gave intermittent state reports while confined in a suspended sensory isolation cradle. A shift in state of consciousness, measured by participants' self-reports, was believed to be related to success in ESP tasks. It was hypothesised that participants whose state was substantially altered by the study procedure would produce higher GESP scores. The procedure involved partial sensory deprivation in a 30 minute session where participants were suspended in a swing-like cradle, standing upright, and immobilised by straps, having sound-attenuating headphones and a light-proof blindfold used to reduce visual and auditory stimulation. The cradle, which is usually called a 'witches' cradle', was given a spin and maintained in rotating motion by involuntary movements on the part of the participant. The shifts in subjective state were assessed by a state report scale which Honorton had developed and which consisted of a range from 0 to 4, where 0 indicated a normally alert and awake condition, and 4 a profoundly altered state in which the subject considers himself oblivious to external surroundings. Participants were instructed to call out the number corresponding to their internal state. Ten minutes prior to the end of the participants' confinement, a sender who was located in another room was instructed to influence participants' spontaneous imagery by concentrating on a randomly selected target picture. After the 30 minute period of the session participants reported the imagery they had experienced while in the sensory deprivation condition. In spite of the non-significant results, participants who gave high state reports obtained a significant degree of target incorporation while those with low state reports produced chance matching, and the hypothesis was confirmed. Finally, Honorton and colleagues (Honorton et al, 1973) suggested that

ESP success appear to be greater under conditions associated with attenuation of external sensory stimuli, and that major shifts from external to internal stimuli might be associated with greater ESP success than small shifts, and that hypnosis, EEG biofeedback, and practical sensory deprivations appear to be augment ESP performance to the extent that they are associated with attenuation of external stimuli and shifts from externally-directed to internally-directed activity.

In Honorton's review of internal attention states (Honorton, 1977), specific conditions under which psi detection is optimised were suggested. The receiver have to have the psi influence in form of a conscious experience which he can attend to, and the experience must be differentiated from others to allow distinction of what is influencing him. In this context, normal perceptual, somatic, and cognitive influences on the receiver constitute sources of noise. Moreover to evidence psi interaction the experience must be reported before the fact happens or it is known through normal channels, and there subsequent confirmation of a meaningful correspondence between the source output and the receiver output is needed. Such correspondence must be sufficiently accurate to eliminate chance coincidence as a reasonable explanation. As such it seems that the ganzfeld fulfils the psi detection criteria in the form described above.

Finally, before proceeding with the ganzfeld literature review, a brief history of the ganzfeld development is presented followed by the ganzfeld experiment conducted by Honorton and Harper (1974) which is the prototype of all ganzfeld work in parapsychology and provides the reader with a standard design of a ganzfeld experiment.

A Brief History of the Ganzfeld

Psychology and psychiatry have shown a major interest in studying altered states of consciousness through history, however, it was difficult to find methods to investigate these states. In 1930, Metzger (cited in Avant, 1965), discovered a procedure that would produce some kind of alteration of state were observers seated in front of a white-washed square surface from which wings extended toward the observer on three sides. Metzger illuminated the field with a neutral light asking observers to verbalize their experience of this field. Metzger found that when low illumination was used, subjects perceived the wall as being a space filling mist or fog. Metzger introduced the term 'ganzfeld' when presenting this work on perception of tridimensional space. The ganzfeld term was first used in psychology in connection with Gestalt theory and human visual perception research, and referred to a homogenous unpatterned visual and auditory field. The meaning of the term ganzfeld, which is of German origin, is 'whole field', the word 'ganz' meaning whole and the word 'feld' meaning field, and it was originally used in psychology as a sensory deprivation technique to induce an altered state (e.g. Avant, 1965). The ganzfeld was initially used to explore visual perception under conditions of visual sensory deprivation, and later to explore mental visual imagery produced under conditions of visual sensory deprivation (Bexton, Heron, & Scott, 1958).

In 1951, Hochberg, Triebel and Seaman (1958) conducted a study which investigated colour adaptation under the ganzfeld condition. The investigation involved an examination of whether or not a totally homogeneous coloured field of light, ganzfeld, would lose its colour becoming neutral. They used translucent hemispheres, table tennis balls cut in half so as to fit the contours of the eye sockets,

in order to create a ganzfeld condition. The table tennis balls were fixed over the participants' eyes using surgical tape in order to cover all gaps and to promote an homogeneous field. The use of table tennis balls in this study which covered all cracks to ensure a complete homogeneous field was an innovation in relation to the study conducted by Metzger where the method allowed participants to see the nose and other objects by peripheral vision. Hochberg and colleagues' participants had a condition where they were exposed to both red and green light while having the table tennis balls over their eyes. They found that with the red field condition participants reported that the red light changed into a disappearance of colour in three minutes while with the green light condition participants reported that the green light changed into black or dark grey in six minutes.

In 1954, a similar study to that of Hochberg and colleagues was conducted by Bexton, Heron and Scott (1958) using the ganzfeld to examine cognitive functioning during prolonged perceptual isolation. Bexton and colleagues had participants laid down on a bed in a sound-proof cubicle wearing translucent goggles which transmitted diffuse light but prevented pattern vision for 24 hours. Participants had an auditory element incorporated in this study where they wore a foam U-shaped pillow on their head with earphones in order to allow minimal communication with the experimenter. Participants were allowed to eat, drink and to go to the bathroom as well during the period of the experiment. Bexton and colleagues found that the use of the pillow with the monotonous hum of an air-conditioner and fan during the experiment provided participants with "a fairly efficient masking noise" (Bexton et al, 1958, p. 323), or auditory ganzfeld. They also found the ganzfeld stimulation to produce a marked increase in visual imagery, and also that several participants

reported they had experienced quite unusual visual imagery like “having a dream while awake” (Bexton et al, 1958, p. 325) while in the ganzfeld condition.

In 1963, Witkin and Lewis (1963) used the ganzfeld technique to examine the content of the hypnagogic interval in relation to a pre-sleep event and subsequent dreams. Witkin and Lewis had their participants situated in a reclining position with white noise and a red homogeneous visual field stimulus, and asked them to verbalize any thoughts, feelings, or images that they might have, which were tape recorded. Based on that, a special procedure to study hypnagogic phenomena, was developed by Bertini, Lewis, and Witkin (1969). Bertini and colleagues’ special procedure involved sensory deprivation using a visual and auditory ganzfeld, facilitating drowsiness, and simultaneously encouraging imagery. They used white noise which was fed into the participant’s ears at the same time that they saw a homogeneous visual field provided by a red light source in front of the participant’s face, having halved table tennis balls attached over the eyes. They used halved table tennis balls to reduce the external stimulation and increase internal attention, and their intention was that by turning their attention internally people would notice their own imagery more vividly, and that essentially would facilitate imagery. They used white noise, which creates a continuous monotonous sound, through ear-phones to reduce auditory feedback from the participants’ own voice, since they were instructed through a free association experiment where they had to say loudly, while lying down during the stimulation, all thoughts, images and feelings they experienced. As such, the resulting experience was of a relatively unvarying field of homogeneous stimulation or as it called, ‘ganzfeld’. White noise has been generally known to facilitate drowsiness, which seems to be conducive to imagery such as dream-like images that are

commonly reported, and the homogeneous visual field has been shown to facilitate imagery as well (Bertini et al, 1969).

Having people in the free-response experimental-hypnagogic ganzfeld procedure seemed to facilitate the flow of ideation and imagery and is evocative feeling as well as fantasies they experienced, and a great deal of imagery was reported by participants during the experimental-hypnagogic ganzfeld. Bertini and colleagues pointed out that the characteristics of the experimental-hypnagogic productions make the ganzfeld experimental procedure a useful one for the study of phenomena of free association (Bertini et al, 1969). Moreover, regarding the feelings evoked in this procedure, they pointed out that some participants showed open preoccupation with the experimenter, such as, what he is doing, what is he like as a person, what his purposes may be, suggesting a 'budding' transference as an important source of feelings in the experimental situation (Bertini et al., 1969). The procedure presented above formed the basis of ganzfeld use in parapsychology.

The ganzfeld procedure in parapsychology was first used by Charles Honorton in 1974 (Honorton and Harper, 1974), and in the introduction of their experiment Honorton and Harper presented the reasons they had for using the ganzfeld in psi research, as follows (Honorton & Harper, 1974, p. 106):

From the observations of Bertini et al., it would appear that the 'experimental-hypnagogic' procedure could provide a fruitful method of stimulating laboratory psi interactions. Specifically, the procedure incorporates three features which may facilitate the psi process: (a) reduction of sensory 'noise' through the regulation of perceptual input; (b) increased imagery and ideation which may serve as 'mediating vehicles' for encoding psi information (Tyrrell, 1946); and (c) establishment of an effective link between the subject and the experimenter or agent, increasing the subject's desire for communication.

Honorton thought the hypnagogic state to be similar in some respects to certain altered states of consciousness originally associated with spontaneous psychic experiences (Honorton, 1974b). The Honorton and Harper (1974) prototype ganzfeld experiment is presented next, in some detail, aiming to inform the reader of the design of the prototype telepathy ganzfeld experiment, which uses a receiver and a subject (sender) as participants.

The prototype ganzfeld experiment (Honorton & Harper, 1974)

The Honorton and Harper ganzfeld study had thirty not selected participants (18 males and 12 females), aged from eighteen to fifty-three. The 'sender' role was to send information regarding the target to the receiver, telepathically. Receiver friends were allowed to participate as senders, if they were willing to do so. If not, a laboratory staff member would be a sender. In the latter case, time was allowed to permit the receiver and the staff member to become familiar with each other.

The ganzfeld room was shown to both participants after they arrived at the laboratory and general procedures were explained. Next, the receiver was taken to a sound-attenuated room where he or she was asked to lie back in a reclining chair. Halved translucent table tennis balls (cut to fit the contour of the eye) were carefully taped over the receiver's eyes and possible gaps at the edges were filled with cotton-wool. Next, headphones were placed over the receiver's ears in order to receive the white noise. The volume of sound was adjusted to match the receiver's preference. In addition, a red lamp was positioned directed in front of the face and eyes of the receiver, from a distance of about six inches, producing an undifferentiated visual

field. Then, an induction tape containing instructions for the response set and for verbalisation during the mentation process was played. Following that, seashore sounds were played in order to produce an homogeneous auditory field.

The sender was then escorted to the sender's room, which is sound-attenuated and which is distinct from the receiver's room. A visual stimulus, which could be an art print or photograph, was randomly selected, by a second experimenter, from the pool of such stimuli to serve as the target for the session. There was a total of 31 target sets, each with four reels selected to be as different as possible from each other. The second experimenter then shuffled another deck of cards to determine which of five five-minute periods would be selected as the sending period.

The sender received some instruction from the second experimenter on how to send the target, as follows (Honorton & Harper, 1974, p. 161-162):

You will look at the reel for a total of five minutes. Go through the entire reel first. Then go back and look at each feeling as though you are 'sending' the picture to the subject in the deprivation room. I will indicate to you when the five minutes have elapsed. At that point you will return the reel to the envelope and shuffle it with the other reels, without looking at them. Then wait in the other room until the subject make his selection.

The sender tried to focus mostly on the target and attempted to mentally transmit the information from the target to the receiver in the other room. The receiver, for about 35 minutes, provided a continuous verbal report of the imagery, thoughts, feelings, sensations and so forth that appear during the mentation. At the end of the session, signalled by the end of the 35 minutes auditory tape, the experimenter entered the receiver's room and removed the eye covers and

headphones, and orally reviewed the receiver's imagery reports. Then the judging period started where four reels were shown to the receiver and the receiver was asked to rate the degree of correspondence between the four reels and his mentation. If the receiver assigns the highest rating to the actual target, it was scored as a 'hit'. All lower ratings were considered to be misses. The 30 individual trials produced 13 direct hits, giving a scoring rate of 43.3 per cent (MCE = 25%). Statistically significant results were reported ($p = .017$). The ganzfeld study by Braud et al (1975) also obtained significant above chance results, while the Parker (1975) ganzfeld study did not.

Other researchers became interested in the ganzfeld procedure and many ganzfeld experiments started to be conducted, and the first review of the ganzfeld literature was published by Honorton (1977). In this review Honorton assessed 16 ganzfeld studies from which 8 yielded significant psi hitting at the .05 level, and this represents a 50 per cent success rate compared to the expected chance rate of 5 per cent. Honorton identified three factors that he felt contributed to the studies high success rate (Honorton, 1977, p. 465): (1) "laboratory differences" (eight of the nine successful studies came from only two labs, Maimonides and Houston); (2) "duration of session" (where the mean duration of ganzfeld stimulation for successful studies was 37 minutes, compared with the mean of 22 minutes for nonsignificant studies); and (3) "prior involvement of subjects in psi experiments" (where five of the successful studies involved participants who had participated in prior psi studies in the same laboratory and two other successful studies used participants recruited from academic courses taught by one of the experimenters). In addition, of the unsuccessful studies, only one involved subjects with prior laboratory psi experiences.

Following that, in 1978, Honorton made his second review of the ganzfeld literature, examining 26 studies from 11 different laboratories, and finding that 14 yielded overall significant results (Honorton, 1978). However, these reviews were primarily descriptive in nature and no attempt to assess any study flaws was made. Regarding that, Kennedy (1979) published an assessment of methodological flaws in free response research, such as the ganzfeld, focusing on three major areas, sensory cues, data selection, and multiple analyses.

Regarding sensory cues, Kennedy argued that the participant judged their own responses using the same target pool which included the same targets that were viewed and handled by the sender. Thus, this could result in the 'greasy fingers' effect, where the sender's finger prints or other indications of their handling the target might be left on the target picture and picked up by the receiver or the judge. However, both successful and unsuccessful studies presented this kind of flaw.

About data selection Kennedy argued that whenever several participants were tested in multiple sessions, the experimenter might have chose to discard the data related to participants who did not complete the intended number of sessions. It may be the case that participants who did poorly on the first sessions may be more likely to drop out while those who did well would finish the required number of experiments, creating a biased sample. To avoid that he pointed out that researchers need to report the outcome of the discarded data as well.

Referring to multiple analyses Kennedy noted the implications of using more than one statistical test to measure the same data. The point was that when multiple analyses are used to measure the same data, the chances of obtaining a significant outcome in that study just by chance are increased. He suggested that in

order to avoid that, the statistical analysis to be used in a study must be pre-specified before the study starts.

Thus, ganzfeld researchers felt that to achieve an evaluation of the ganzfeld database efficiently, they needed a common ground to allow evaluation of ganzfeld studies equally, the meta-analysis technique. Meta-analysis is a technique that allows statistical comparison across studies on the basis of study outcomes, allowing for individual designs and procedures. In 1985, a well known cognitive psychologist and sceptic, Ray Hyman, published a meta-analysis of ganzfeld studies based upon a database of 42 ganzfeld studies provided by Honorton to Hyman (Hyman, 1985). Hyman's assessment of the methodology and flaws of the 42 ganzfeld studies showed a tendency for rate of success to increase with the number of assessed flaws, and the publication of that resulted in a debate between Honorton and Hyman. Honorton was instigated by the Hyman (1985) first meta-analysis to do his own meta-analysis (Honorton, 1985), which wasn't as critical as Hyman's one, and that lead to the Hyman-Honorton (1986) joint communiqué which is presented next.

The ganzfeld meta-analysis (Hyman & Honorton 1986)

In 1985 and 1986, the well known parapsychologist Charles Honorton and the cognitive psychologist and psi sceptic Ray Hyman, turned their attention to a critical examination of the ganzfeld database (Honorton, 1985; Hyman, 1985; Hyman & Honorton, 1986). In their joint paper a meta-analysis technique was used to analyse a ganzfeld database with 28 ganzfeld studies (see Appendix 3). In Hyman and Honorton (1986), receivers' ratings were analysed by tallying the proportion of hits achieved and calculating the exact binomial probability for the observed number of

hits compared with chance expectations of .25. The *Journal of Parapsychology* (JP) had plans to publish one more exchange between Honorton and Hyman, to continue the debate started in March 1985. However, Hyman and Honorton decided not to submit their replies about the 1985 examination of the ganzfeld database to the JP but to work on a *joint communiqué* article. They agreed that the overall significance observed in the 28 ganzfeld studies couldn't reasonably be explained. Furthermore, it is a point of agreement that the significant outcomes were produced by a number of different investigators. Hyman and Honorton didn't agree on the extent to which the current ganzfeld data base provided evidence for psi. They agreed that the final verdict awaits the outcome of future psi ganzfeld experiments. The strongest point of disagreement was the relationship between flaws and study outcome. Another point of agreement is the possible recommendation that future ganzfeld experiments should be conducted in accordance with ideal standards, as follow:

The first recommendation concerns the control of sensory leakage and eliminating all possibilities for sensory communication between sender and receiver during a ganzfeld session and during the judging period.

The second recommendation involves randomisation of targets. Such procedures should be thoroughly documented.

The third recommendation is about judging and feedback. Hyman and Honorton agree that the judging and feedback procedures should be presented in greater detail than has previously been the case.

The fourth recommendation concerns multiple analysis that pervades all the sciences. It is recommended that investigators specify in advance all confirmatory tests and suggest findings that require confirmation by future experiments.

The fifth recommendation deals with the file-drawer or selective reporting, and retrospective experiments. Hyman referred to retrospective experiments meaning specifications about the status of the experiment that should be provided in advance.

The sixth recommendation involves statistics and approaches some errors in the use of statistical tests in over 20% of the experiments in the meta-analytic samples of 28 studies.

The seventh recommendation dealt with the issue of documentation. In order to enable possible reconstruction of a ganzfeld psi experiment, it is necessary to have available the documentation of the authors' procedures as well as descriptions provided in the experiment report.

Hyman and Honorton urged parapsychological investigators to plan and report their experiments with the idea that a single experiment would contribute to future meta-analysis. A table containing information for future meta-analysis is found at the end of their article (Hyman & Honorton, 1986, p. 362). Finally, it is expected that by following these recommendations, researchers achieve their objectives more accurately improving the scientific knowledge about psi.

It is the impression that the experimental guidelines presented as a result of this meta-analysis and joint communiqué contributed in an important way the ganzfeld research in parapsychology and that Hyman and Honorton's work provides a foundation for contemporary ganzfeld researchers towards the improvement of the standards of psi research. That consider it to be a very productive partnership when critics and parapsychologists work together. Despite obvious differences, parapsychologists and their critics share many common objectives, most of them rarely noticed in the debates which are focused on differences. Further interactions

between parapsychologists and sceptics are important not only to parapsychology, but also to science as a whole.

Ganzfeld research at Psychophysical Research Laboratory

From 1983 to 1989, when funding problems forced the lab to close, Honorton and colleagues initiated a new series of ganzfeld studies which were designed to address the basic methodological problems identified in earlier ganzfeld literature (e.g. Honorton, 1979; Kennedy, 1979), and to follow all the guidelines he and Hyman proposed in their *joint communiqué* article (Hyman & Honorton, 1986). The Psychophysical Research Laboratories (PRL) innovated with the development of an automated ganzfeld system and introduction of video clips as target stimuli. The system provides computer control of target selection and presentation, blind judging, participant feedback, and data recording and storage. Moreover, a computer-controlled videocassette recorder (VCR) accesses and automatically presents target stimuli to senders. The PRL ganzfeld research is presented here using the information of the following references (Honorton, Berger, Varvoglīs, Quant, Derr, Schechter & Ferrari, 1990; Bem & Honorton, 1994). The automated ganzfeld (autoganzfeld) design is parallel to the studies presented previously.

Experimental series

The PRL completed 354 ganzfeld sessions involving 100 men and 140 women participants, ranged in age from 17 to 74 years old (mean = 37.3), and with a mean of formal education of 15.6 years (SD = 20), conducted by eight separate experimenters over six and a half years. There were three pilot series and eight formal series, having five of the formal series involving first time (novice) participants who

acted as receivers for one session each. The other three formal series used experienced participants. Honorton and colleagues' investigation focused on (1) evidence for psi in the autoganzfeld situation; (2) the impact of dynamic versus static targets; (3) the effects of sender/receiver acquaintance, (4) the impact of prior psi ganzfeld experiences, and nonautomated psi ganzfeld experiments. These series are briefly presented here followed by a meta-analysis conducted by Bem and Honorton (1994).

These were the eleven studies conducted in the PRL, and according to Bem and Honorton (1994), these comprise all of the sessions conducted during the six and a half years of the PRL program, having no 'file drawer' of unreported sessions. Bem and Honorton presented a meta-analysis of the complete PRL studies results as evidence for a replicable anomalous process of information transfer. In Bem and Honorton, as in the Hyman and Honorton (1986) meta-analysis, receiver's ratings were analysed by tallying the proportion of hits achieved and calculating the exact binomial probability for the observed number of hits compared with chance expectations of .25.

As mentioned earlier, there were 354 ganzfeld sessions involving 240 participants in the PRL studies. There were 106 hits in the 329 sessions of studies 1 through 301, yielding a hit rate of 32% ($p = .002$, 1t) with 95% confidence interval (CI) from 30% to 35%, and an effect size (π) of .59, with a 95% CI from .53 to .64. To devise a scale of equal detectability, Cohen (1988) devised the effect size h , which performs an arcsin transformation on two proportions before calculating their difference. Cohen's h can assess the difference between any two proportions drawn from independent samples or between a single proportion and any specified

hypothetical value. The formula is: $h = a_1 - a_2$, where a is the arcsin equivalent of two proportions to be compared (X). However, because the values of h do not provide an intuitively descriptive scale, Rosenthal (1991) suggested a new index, π , which refers specifically to one-sample, multiple choice data such as the kind obtained in ganzfeld experiments. The π ranges from 0 to 1, with .5 expected under the null hypothesis. The formula is; $\pi = P(k - 1)$ divided by $P(k - 2) + 1$. When studies 104 and 105 are combined and re-divided into studies 104/105a (non-Juilliard samples) and 104/105b (Juilliard samples), 9 of the 10 samples yielded positive effect sizes, with a mean effect size (π) of .61, $t(9) = 4.44$, $p = .0008$, (1t). This effect size is equivalent to a four alternative hit rate of 35% and it is identical to that found across the 28 studies of the earlier meta-analysis.

Considered together, sessions with novice participants (studies 101-105) yielded a statistically significant hit rate of 32% ($p = .009$), which is not significantly different from the 31.6% hit rate achieved by experienced participants in studies 201 and 301. Finally, each of the eight experimenters also achieved a positive effect size with a mean (π) of .60, $t(7) = 3.44$, $p = .005$, (1t).

There is a significant negative correlation across the 10 studies (1 through 301) between the number of sessions in a study and its effect size (π), $r = -.64$, $t(8) = 2.36$, $p < .05$, (2t). This is reminiscent of Hyman's discovery that the smaller studies in the original ganzfeld database (Hyman, 1985) were disproportionately likely to report statistically significant results. Hyman interpreted that as evidence for the file drawer effect, or bias against the reporting of small studies that failed to obtain significant results. A similar interpretation cannot be applied to the PRL autoganzfeld studies because there are no unreported sessions. The negative

correlation derives primarily from the two studies with largest effect sizes: the 20 sessions with the Juilliard students and 7 sessions of study 201, the study specifically designed to retest the most promising participants from previous studies. Accordingly, it seems likely that the larger effect sizes of these two studies, and thus, the significant negative correlation between the number of session and the effect size, reflect genuine performance differences between these two small, highly selected samples and other autoganzfeld participants.

Study 302, sampled from a single dynamic target set that had yielded a particularly high hit rate in the previous studies, while the other studies sampled randomly from a pool of 160 static and dynamic targets. The experimental design called for the study to continue until each of the four clips had served as the target 15 times, but the premature termination of this study at 25 sessions left an imbalance in the frequency with which each clip had served as the target. That raises the possibility that the high hit rate observed (64%) could well be influenced by response biases. For example, the four film clips in the set consisted of a tidal wave from the movie 'Clash of the Titans', a scene of various snakes from the TV documentary 'Life on Earth', a high speed sex scene from 'Clockwork Orange', and a scene from a 'Bugs Bunny in Space' cartoon. Participants in the ganzfeld usually report water imagery but rarely report any type of sexual imagery. Thus, if a video clip containing popular imagery, such as water, happens to be randomly selected to be the target more frequently than a clip containing unpopular imagery, like sex, a high hit rate might simply reflect the coincidence of those frequencies of occurrence with participants' response biases. To adjust for this problem, Honorton and colleagues used the observed frequencies of each clip as target and each clip's frequency of being ranked first to compute the hit

rate if there were no psi effect by multiplying each proportion in the first case, clip as target, by the corresponding proportion of that clip's frequency of being ranked first, and then summing across the four clips. This computation yields an overall expected hit rate of 34.1%. When the observer hit rate of 64% for this target pool is compared with this baseline, the ES (h) is .61. This is equivalent to a four-alternative hit rate of 54% or (π) value of .78 and is highly statistically significant ($p = .0012$).

This psi effect can be demonstrated even more clearly when examining the differential popularity of the imagery in the clips by displaying how frequently each was ranked in first place when it was the target compared to how frequently it was ranked in first place when it was one of the control clips (a decoy). Each of the four clips was selected as the target relatively more frequently when it was the target than when it was a decoy, a difference that is significant for three of the four clips. On average, a clip was identified as the target 58% of the time it was the target compared with only 14% of the time when it was a decoy. The ten autoganzfeld studies that randomly sampled from both dynamic and static target pools yielded 164 sessions with dynamic targets and 165 sessions with static targets, where sessions using dynamic targets yielded significantly more hits (375) than did sessions using static targets (27%). The PRL ganzfeld database showed that while success rates for dynamic targets hovered around 41% regardless of the sender-receiver relationship, the hit rate for static targets when the sender was a friend was actually 31.2%. Further trials with static targets and laboratory staff as senders resulted in only 20.7% hits. Therefore, while laboratory staff and friends work equally well for dynamic targets, using friends as senders with static targets apparently will yield better results.

A review made by Hyman (1994) of the Bem and Honorton ganzfeld report criticised the ganzfeld procedure focusing on claimed inconsistencies with earlier manual ganzfeld studies and tests of the randomization procedure for the automated ganzfeld. One such inconsistency with earlier ganzfeld studies was of sender/receiver pairing where Bem and Honorton concluded that the sender/receiver pairing was not a significant correlate of psi performance in the autoganzfeld studies. Hyman (1994, p. 20) saw this “failure to get significance as a noteworthy inconsistency”. Hyman pointed out that the autoganzfeld studies met most of the requirements that Honorton and him specified in their *joint communiqué* (Hyman & Honorton, 1986), but pointed out that one surprising exception was the inadequate testing of the randomization procedures. The tests for adequacy of randomization were confined to showing a uniform distribution of outputs from 1 to 160 from target selection and permutations of all possible orderings during the judging procedure, but Hyman pointed out that a uniform distribution of target choices is not sufficient for an adequate random generator. He suggested that a way to prevent response biases from distorting the hit rate is to use a randomising procedure that makes sure that each item within a target pool occurs equally often. Hyman pointed out that “autoganzfeld experiments are a praiseworthy improvement in methodological and experimental rigor over the previous ganzfeld experiments” (Hyman, 1994, p. 23). However, Hyman felt that results of the autoganzfeld studies were not consistent with earlier studies, and that the positive effect size and significance depended on a new type of target and target presentation, and on target repetition.

In his reply to Hyman, Bem (1994) pointed out that he and Honorton didn't claim a replication of the earlier ganzfeld studies' effect size. Instead, they simply

observed that earlier studies had achieved an overall hit rate of about 33% and that the autoganzfeld experiments had achieved approximately the same effect size. Regarding sender/receiver pairing, Bem pointed out that previous ganzfeld studies that permitted receivers to bring in friends to serve as senders obtained significantly higher hit rates than did studies that used only laboratory-assigned senders, but as mentioned in their article, there is no record of how many participants in the previous studies did not bring in friends. Thus, these studies do not provide a clean test of the sender-receiver variable. The autoganzfeld studies allowed participants to bring in friends, and those pairs did in fact achieve higher hit rates (35%) than did sender/receiver pairs who were not friends (29%). However, Bem pointed out that this finding is equivocal. For instance, in the archival publication of the autoganzfeld studies, Honorton et al (1990) presented the sender/receiver relationship findings as a marginally significant point-biserial correlation of .36 ($p = .06$). Bem mentioned the problem of randomization as a critical one in many psi experiments because of systematic patterns in inadequately randomized target sequences that might be detected by subjects during a session or might match their pre-existing response biases. But ganzfeld study randomization is less problematic than in other kinds of psi experiments because only one target is selected during the session and the majority of participants serve in only one session. Then the primary concern is that all targets are sampled about equally over the course of the study. Similar considerations apply to the sequence in which the target and decoys are presented to the receiver for judging. Hyman (1994) also suggested that if items to be judged are presented sequentially, there is a tendency to select the first or second items in the judging series, and Bem (1994) found this hypothesis to be true. The expected hit rate across all four

positions was 24.7%, but this was actually lower than the 25% that would have been obtained if the target position had been uniformly distributed across the sessions. So, Bem concluded that inadequate randomization could not have contributed artifactually to the hit rates. It is considered that ganzfeld study's randomization is indeed less problematic than in other kinds of psi experiments because only one target is selected during the session and most of the participants serve in only one session, and agree with Bem's conclusion that inadequate randomization could not have contributed artificially to their study hit rates. For full details of this exchange, see Bem and Honorton (1994), Hyman (1994), and Bem (1994).

Finally, Honorton and Schechter (1986), in an initial exploratory analysis of performance correlates involving the first two PRL novice series (series 101 and 102), found four specific factors that were positively and significantly related to ganzfeld success, as follows: (1) prior psi experiences; (2) the practice of some mental discipline; (3) prior laboratory psi testing; and (4) feeling/perception preferences on the Myers Briggs Type Inventory (MBTI). The PRL studies demonstrated that there is an effect even when an automated ganzfeld procedure is used under tight conditions. And as pointed out previously in the Hyman and Honorton (1986, p.351) meta-analysis, "there is an overall significant effect in this database that can not reasonably be explained by selective reporting or multiple analysis". Thus, it appears to be an effect here, and the ganzfeld appears to be a very efficient method to conduct psi research in parapsychology. The use of the ganzfeld method in this thesis is discussed later in chapter 5.

The autoganzfeld procedure developed at PRL by Honorton and colleagues is recognised as one of the soundest methodologies in parapsychology. However,

there has been criticism of the autoganzfeld work (e.g., Morris, Cunningham, McAlpine & Taylor, 1993; Wiseman, Smith & Kornbrot, 1994), mainly about: (1) possible subliminal sound leakage to the receiver (Honorton et al (1990) acknowledge that after about 80% of the sessions were completed, it was found that there was the possibility of dynamic target soundtrack leakage into receiver's headphones); (2) repeated playing of the target tape during sending might alter the tape physically such as to provide a subtle cue; (3) sounds from the VCR might provide cues to the experimenter about which clip was being played as target; (4) sound leakage from the target room to experimenter might provide cues, if senders are noisy; (5) there could be a complex electronic signalling system between sender and receiver; and (6) deliberate experimenter fraud. Another relevant issue to ganzfeld research, is the role of the sender, which is presented next.

The Sender Debate

The sender debate deals with the question of whether the presence of a sender increases successful psi functioning in the ganzfeld experiments, and it is relevant to our work that involves a clairvoyance design. Many spontaneous cases are reported having had a 'mind to mind' communication involved. However, what seems to be telepathy reported in those cases might also be produced by clairvoyance, where the 'receiver' would pick up the information directly from the target, being difficult to distinguish one from another. Thus, if the receiver picks up the information directly from the target, the presence of the sender would be irrelevant. A study conducted by Williams, Roe, Upchurch, and Lawrence (1994) compared three sending conditions: no sender, one sender, and two senders. They

found that for the 'no sender' condition within 12 trials, no hits were obtained ($MCE = 3$), and that for the 'one sender only' condition just 3 hits were obtained out of 13 trials ($MCE = 3.25$), and that for the 'two senders' condition 2 hits were obtained out of 17 trials ($MCE = 4.24$). The experimenters acted as senders and as receivers over many sessions though, becoming familiar with the target pools, which is a deviation from the standard ganzfeld protocol. Moreover, the results were below MCE for the different trials, and as the authors pointed out, after knowing the results of the study, that could reflect problems in interpersonal dynamics encountered by the authors than the result of having or not having a sender present. Regarding the ganzfeld database, a meta-analysis conducted by Honorton (1995) showed that ganzfeld studies using senders obtained better results than those which had not used senders, but this finding was restricted to experimenters who used both conditions at one time or another. For those experimenters having only one condition (telepathy or clairvoyance), the results were slightly better in studies not using a sender. Thus, the question remaining is whether or not having a sender actually adds anything to the strength of the results. To answer this question, a further study concerned with investigation of the role of the sender in ganzfeld research, was conducted by Morris, Dalton, Delanoy, and Watt (1995). This investigation is presented here because of the relevance to our work that uses a clairvoyant experimental design for both dream and ganzfeld experiment conditions presented later.

The Morris et al. (1995) study used a refined automated ganzfeld procedure which was designed to overcome various possible problems of the method used in the PRL autoganzfeld procedure, such as those raised by Morris et al (1993), and Wiseman, Smith, and Kornbrot (1994). This study utilises the automated ganzfeld

system of the Koestler Chair of Parapsychology (KPU) at the University of Edinburgh, which was originally conceived by Honorton and re-designed by Dean Radin and Robin Taylor to improve security features and sensory shielding, and it was initially programmed and documented by Dean Radin. Moreover, additional security features and sensory shielding were implemented by Kathy Dalton, who also performed the necessary upgrading of programming and documents. The Edinburgh autoganzfeld is a computer based system that provides automatic data recording, highly effective shielding against sensory cues, and resistance to both participant and experimenter fraud (Dalton, Morris, Delanoy, Radin, Taylor & Wiseman, 1994).

The main question addressed in this study was whether having an active sender/receiver conveys any advantage or affects the results in any tangible way. The study conducted by Morris et al. (1995) had three conditions: sender absent with receiver and experimenter blind as to sender's presence or absence; sender present with receiver and experimenter blind as to sender's presence or absence; and sender present with receiver and experimenter aware of sender's presence. Therefore they could assess the physical presence of the sender as well as the psychological effects of knowing that there was a sender. Conditions 1 and 2 of this study were designed to compare the presence and absence of the sender. The third condition was designated as the Honorton replication condition. It was designed to examine the role of expectation having a known sender, providing a conditions similar to the original PRL auto-ganzfeld procedure, which had a known sender.

A total of 97 participants took part in the Morris et al (1995) study, composed of 52 females and 45 males, primarily undergraduate art students and who participated in one session each. Participants were selected as much as possible to

match the characteristics of earlier autoganzfeld successes, that is, persons with artistic or musical talent, a positive attitude toward psi, and previous psi experiences. The automated ganzfeld system of the KPU was used in this study. Participants had a chat prior to the experiment with two of the researchers to discuss the session in which they were about to participate and also to get to know each other better. A tour was provided as well to familiarise them with the laboratory facilities. For the condition with a sender present, the sending strategies were discussed with participants. For the condition without a known sender, participants were told that the sender may be or may be not in the sender room observing the target, but that the target clip would be shown independently of that.

The overall results were 32 direct hits out of 97 trials ($MCE = 24$), just statistically significant $p < .05$ (1t), $ES (h) = .18$ (Cohen, 1977). They obtained non-significantly above chance results for direct hits of all three sending conditions. Thus, the relevant aspect for my study is that they found “no evidence that the presence of a sender mattered much, either psychologically or parapsychologically” (Morris et al, 1995, p. 258). However, there might be a problem regarding conditions 1 and 2 which comprises two thirds of the trials having the receiver unaware of the presence or absence of a sender. For both conditions 1 and 2 the receiver had two possibilities, to have a sender present or not without his knowledge. It seems to me that in order to compare the presence and absence of the sender, it would be better to have a fourth condition, having a known absent sender condition, so that a two-by-two design will be possible. That’s important because it would test specifically for clairvoyance, where there is no sender.

The sender no sender issue is relevant to my work which uses clairvoyant designs for both dream and ganzfeld experiments. It shows that there is no evidence to suggest that one should necessarily expect better results when using senders than when not using senders, so it appears not to be necessary to have a sender to get an effect. For our study no sender is used, and it is believed that is not a problem. For the dream study there is a reason for not having a sender because it is not viable to have sender participants staying during the night, locked, in the sender room. Moreover having no sender eliminates the problem of having to ensure no possible communication between sender and receiver.

Another autoganzfeld study conducted at the KPU was the study conducted by Dalton (1997b), which explored the relationship between creativity and psi in the ganzfeld. The participants were four creative groups, with 32 participants in each group, artists, musicians, creative writers, and actors. The procedure involved a telepathy technique in this study using the automated ganzfeld system at the KPU.

The study hypotheses were: that the overall number of direct hits for this study would exceed chance; that there would be a positive correlation between creativity scores and success; and, that there would be a positive correlation between success and extroversion as measured by the NEO questionnaire.

The procedure in this study had participants first completing the PIF and returning it to the KPU, and then visiting the ganzfeld suites to complete creativity assessments and receive a tour of the laboratory. The creativity assessment involved individual creativity assessments administered to each group on the basis of their creative background (i.e., artists completed figural drawings, musicians responded to musical sounds, writers completed story lines, etc.) in order to allow an assessment of

the level of creativity in their respective area. When participants arrived in the psychology department for their ganzfeld session the experimenter met them at the door and escorted them to the ganzfeld suite. The receiver and the sender were placed in separate acoustically-attenuated rooms. Prior to the session, eye shields were placed over the receiver's eyes (halved table tennis balls) and headphones were placed as well. When the session began the receiver first heard a 15 minute progressive relaxation, followed by 30 minutes of white noise through headphones. During the ganzfeld session, the sender listened to the relaxation tape along with the receiver. During the white noise period, the receiver described their thoughts and images aloud for approximately 30 minutes while the sender concentrated on a randomly selected target. After the sending period was completed, the judging period took place where four target clips were shown to the receiver. After viewing the target clips, ratings and ranks were given by the receiver to the four possible targets. After the judging sequence the computer stored all experimental data and the sender is notified to return to the ganzfeld suite. The computer then revealed the identity of the target.

The overall ESP results of this study were highly statistically significant at $p = 7 \times 10^{-8}$ (2t), $ES(h) = .46$. The study obtained 60 direct hits out of 128 trials (MCE = 32), a direct hit rate of 47%. Divided by group, the musicians group obtained the best result, 18 hits out of 32 trials (MCE = 8) with a direct hit rate of 56%. The artists group had 16 hits out of 32 trials, a direct hit rate of 50%. The creative writers group obtained 13 hits out of 32 trials with a direct hit rate of 41%. And the actors group obtained 13 hits out of 32 trials with a direct hit rate of 41%.

For the creativity and personality data, the verbal form of the Torrance Tests of Creative Thinking (TTCT) was used as a measure of creativity across all four groups. Correlations were calculated between z scores and the verbal form of the TTCT for each participant.

Musicians obtained a significant correlation between z scores and the verbal form at $\rho = .358, p < .02$, between z scores and extroversion, $\rho = .297, p < .05$. The artists group obtained a nonsignificant correlation between z scores and the verbal creativity measure (verbal $\rho = .188$). However, for the artists group, the correlation between z scores and extroversion yielded a significant finding in the direction opposite to the predicted one, at $\rho = -.341, p < .01$. That appears to indicate that introverted artists performed better on psi task than did the extroverted artists. The writers group obtained a nonsignificant correlation between z scores and verbal creativity measure ($\rho = -.166$). The extroversion measure for this group was also nonsignificant ($\rho = .211$). The actors group obtained a significant correlation between z scores and the verbal form at $\rho = .336, p < .02$. However the extroversion measure was nonsignificant for actors ($\rho = .175$).

These results show that creative populations have the potential to perform well on psi tasks. The musicians performed particularly well. The results are encouraging and show that ganzfeld research continues to show an effect under tightly controlled conditions. A ganzfeld study conducted in Brazil at the same institute where the present study was conducted in Brazil is presented next.

The Brazilian Ganzfeld Experiment

To our knowledge, the first ganzfeld study conducted in Latin America was conducted in Curitiba, a southern city of Brazil, by Barrionuevo and Pallú (1997). The ganzfeld laboratory facilities used in Barrionuevo's study were located at the Bio-psychical Sciences College in Curitiba, the same place where I conducted the present study. The ganzfeld laboratory was one of the parapsychology unit laboratories. The main purpose of the laboratory was didactic, seeking to demonstrate and teach about the ganzfeld procedure to the students of the parapsychology unit. Sixty trials were conducted by Barrionuevo and Pallú, and the procedure used in this study was a manual-ganzfeld telepathy procedure as described below. The study was carried out from 1993 to 1996. Both Barrionuevo and Pallú acted as experimenters, one as the receiver's experimenter, Barrionuevo, and the other, Pallú, as the sender's experimenter for the session. The two experimenters were staff members of that College, and the role of the sender's experimenter was to randomise the target envelope and to stay with the sender during the experiment. The Brazilian participants were composed of 20 male and 29 females, age range of 12 to 67 (mean = 35.5, SD = 13.5). The target pool consisted of 100 sets of four possible targets. The results, based on the independent judges' judging were not significant, $z = 1.04$, $p = .30$ (2t), $r = .13$. It is not clear why non-significant results were obtained. After the completion of this study, in 1996, the ganzfeld laboratory was closed due to insufficient funding for the research. The ganzfeld suite was not properly built to serve as a sound-attenuated suite for the ganzfeld experiment, and after the closure of this laboratory, a new ganzfeld laboratory was built in Curitiba under Kathy Dalton's

supervision. The new ganzfeld lab, used by the author to conduct this thesis study, is presented later.

Next, a series of comparative ganzfeld and dream studies using a clairvoyance technique is presented. It seems that the idea of comparing such conditions, where the ganzfeld condition promotes an artificial induced altered state of consciousness and the dream condition promotes a naturally induced altered state of consciousness, is a way of learning more about the psi process. It is thought that a procedure that involves having participants at the laboratory for the ganzfeld condition and in their own home environment for the dream condition is suitable to explore how people perform the psi task in these different conditions, and particularly to investigate how similar or different their reported experiences might be.

Comparative ganzfeld and dream ESP experiments with a clairvoyance design

Kanthamani and colleagues did a series of comparative ganzfeld and dream ESP experiments at the Institute for Parapsychology (Rhine Research Center-RRC) in Durham, North Carolina, USA (Kanthamani, Khilji, & Rustomji-Kerns, 1988; Kanthamani & Khilji, 1990; Kanthamani & Broughton, 1992). The three studies, conducted by Kanthamani and colleagues, are presented in more detail in this section due to their relevance in relation to this thesis research.

Before presenting the studies, one must consider the differences between dreaming and waking consciousness, and then some differences and similarities between dreaming and the state of consciousness induced by the ganzfeld. According to Empson (1989) (cited in Eysenck, 2000), there are differences between dreaming and waking consciousness, as follows: to begin with, while dreaming people typically

feel that they have little or no control over their dreams, an exception are lucid dreams (e.g. LaBerge and Gackenbach, 2000) where people know they are dreaming and are able to sometimes control their dream content. On the other hand people nearly always have a sense of conscious control in our waking lives. In addition, dreams usually contain elements that appear to be illogical if considered in our waking consciousness context. Also people tend to be totally absorbed by dream imagery, but when awake they can usually stand back from our conscious thoughts and not be dominated by them. As previously presented, the similarities between dreaming and the altered state of consciousness induced by the ganzfeld, are that in both conditions there is physical and mental relaxation, sensory isolation, and a decrease of externally directed attention, which is believed to increase imagery production (Honorton, 1977). In addition, dreaming generally contains illogical elements. If considered in our waking consciousness context, ganzfeld could mainly contain illogical elements as well. Moreover, people tend to be totally absorbed by their dream imagery, however when in the ganzfeld they usually are partially absorbed by the imagery produced in the ganzfeld.

The Child, Kanthamani and Sweeney (1977) simplified dream study experiment, previously presented in chapter two, provided inspiration for Kanthamani, Khilji and Rustomji-Kerns' (1988) first study. Their first study was an extension of a short series of four trials conducted in the summer of 1987 where a ganzfeld project conducted by H. Kanthamani and A. Kanthamani took place at the RRC (Kanthamani et al, 1988). It was felt that the student's mentation contained target-relevant imagery, and that she had rich experience in dream work having maintained a dream journal. They felt then that she would be a good participant in a

study that involves both Ganzfeld and Dream conditions to study their relative efficiency as psi-conducive procedures. After the preliminary series of four trials was carried out during that summer, a pilot experiment was conducted in 1987 with 10 trials. The experiment's purpose was to explore the relationship between ganzfeld-psi and dream-psi factors in identifying a given target. Their main question was to investigate if the judges would be more successful in identifying the target with ganzfeld mentation or with dream mentation.

A clairvoyance technique was used in this study in order to have only the target exposed during the night and to avoid having a sender awake during the night to send the target information. A common target was used for both ganzfeld and dream conditions in Kanthamani and colleagues' study. Thus, there might be a problem here, where psi impressions of the target for the ganzfeld session might have appeared more strongly in the later dream session, and so influenced the results. The ganzfeld and dream conditions were not randomly determined for each trial, and a ganzfeld first and dream second order was followed in this study. They used a single target for both ganzfeld and dream trials in order to investigate if the target information would in some way appear more clearly in the dream condition. The idea was that psi-stimulus of the ganzfeld could be incorporated into later dreams, appearing during the dream condition which took place during the same night of the ganzfeld experiment. The ganzfeld clairvoyance technique procedure used in this study was similar to the procedure used by Munson, Kanthamani, Khilji, and Zingrone (1987, pp. 44-47).

The dream procedure consisted of the participant going home after the ganzfeld experiment to have a relaxed evening, going to bed at his or her usual time,

keeping writing material next to them (e.g., a dream journal book, pen, flashlight, and a clock). The target remained at the institute locked in the ganzfeld suite, and the participant was asked to focus on the target, wishing the target to appear in her dreams. Participants were not aware that the same target was used for both ganzfeld and dream trials.

A group situation was used to do the judging procedure, where the experimenter, the co-ordinator, and the participant acted as judges. The judging procedure, used in this study, follows the judging procedure used by Carpenter (1987), where the mentation reports were reviewed by a group of judges. The mentation reports were reviewed, one at the time by the group, following the order which they were carried out. That might have led to an order effect, where the target was the same for each trial and information from the ganzfeld mentation might have helped the judging for the dream condition. However, their choices were registered independently on separate judging forms (Carpenter, 1987). The ganzfeld mentation was judged first, and the dream report next. A rank from 1 to 4, and a rating from 0 to 99, were used by each judge to indicate their target choice. For the pilot series, another judge was used in an effort to control for possible order effect in judging, who independently judged the dream protocol first, and then the ganzfeld mentation for each trial. But that appeared not to be enough to avoid an order effect; the ideal was to have a counterbalanced trial sequence. Feedback was given to all at the same time, by opening the target envelope, when judges completed their task. The envelope remained at the Institute with the data-handler for safekeeping. Each dream and ganzfeld trial lasted over a period of two days.

The z scores of the ganzfeld and dream trials were tested for the ganzfeld condition and for the dream condition separately in this study, by single-mean t test for the overall significance, and a correlated two-sample t test for testing their difference. The z score from the pooled ratings various judges did for each trial was obtained following Stanford, 1974, method in this study (cited in Stanford & Sargent, 1983). The preliminary series of four trials conducted in the summer of by H. Kanthamani and A. Kanthamani was not significant.

The results for the pilot series (Kanthamani et al, 1988) involved a mean z score of 10 trials under ganzfeld of -0.534 , which gives, compared to the theoretical mean, a $t(9) = -2.094$, $p = .06$ (2t). This mean value being negative, it indicates psi missing to a marginal degree. In addition, they found the mean z score of 10 trials for dreams of 0.261 , which is not significant. The difference between the two conditions appeared to be marginally significant, with $t(9) = 2.222$, $p = .05$ (2t).

Kanthamani and colleagues also applied a sum-of-ranks method for the same data. The summed rankings of the four judges differed significantly from mean chance expectancy in the ganzfeld condition and not in the dream condition. The mean rank for the 10 trials was 12.20 and 9.40 , respectively for the two ($MCE = 10$). The missing in the ganzfeld was independently significant with a $t(9) = 2.75$, $p = .0225$ (2t). The above chance scores of the dream condition are not significant. The difference between the two conditions is strongly significant with a $t(9) = 3.015$, $p = .015$ (2t). Kanthamani and colleagues used both ranks and ratings for the analysis, and that raises the question of multiple analysis. Thus, the small number of participants (one), the multiple analysis, and the absence of a ganzfeld and dream

counterbalanced conditions order, might have conjured this study's results. Thus replication of this research is needed with better controlled methods and analyses.

The second series was an attempted replication conducted by Kanthamani and colleagues that took place in 1990, at the same Institute (Kanthamani & Khilji, 1990). They used 10 participants, five males and five females, with a within subject design for both ganzfeld and dream conditions. Each participant was required to complete two trials, each with two conditions, one for ganzfeld and one for dream. These conditions were composed of two orders: (1) ganzfeld first and dream second (G-D order), and (2) dream first and ganzfeld second (D-G order). Both orders were applied for each participant, one order during the first trial, and the reverse order during the second trial. The order was balanced across participants. As a result, 10 ganzfeld sessions took place first, followed by dream condition; and 10 ganzfeld session took place after the dream condition. In addition, the use of multiple judges in the previous study was modified to two judges, the participant and the experimenter, in this study. However, in all other respects the two studies are similar.

The basic procedure of this study is similar to the first study, already described, with slight alterations (Kanthamani, Khilji & Rustomji-Kerns, 1988). The ganzfeld and dream trials were conducted on two consecutive days, and the ganzfeld trial took place at the laboratory, and the dream at home. The judging procedure was essentially parallel to the previous study, however, two instead of four judges were involved. The feedback was provided to all at once after the completion of the judging.

Kanthamani and Khilji, based on their previous study (Kanthamani et al, 1988), predicted a significant difference in the scoring rate between the ganzfeld and

dream conditions (hypothesis 1), and that the scoring direction of the two conditions would be a significant missing in the ganzfeld data, and significant hitting in the dream data (hypothesis 2). However, there is not enough evidence in the previous study data to suggest that one would expect a significant missing in the ganzfeld data and a significant hitting in the dream data.

The results of the present study seem to support the findings of the previous one. There was an overall significant difference between the ganzfeld scores and the dream scores. The results, taking participants' pooled ratings into consideration, show a mean target rank for the ganzfeld of 5.20, and for the dream of 4.30 (MCE = 5.0). The means differ significantly with $t(19) = 2.015$, $p = .029$ (1t). Using the single-mean t test, the dream scores obtained significance with $t(19) = 1.789$, $p = .045$ (1t), but the ganzfeld was not significant ($t = .438$). The difference between the two conditions was significant, with $t(19) = 2.015$, $p = .029$ (1t).

The results, taking participants' ranks into consideration, show a mean rank for the dream of 1.95, and for the ganzfeld of 2.6 (MCE = 2.5). The two means differ significantly with $t(19) = 2.557$, $p = .019$ (2t). The dream scores were independently significant with $t(19) = 2.604$, $p = .017$ (2t), but the ganzfeld scores were not. Hypothesis 1 is supported by those results, but hypothesis 2 is partially supported.

In 1992, seeking to understand and analyse those results even further, Kanthamani and Broughton conducted the third and last comparative dream and ganzfeld study (Kanthamani & Broughton, 1992). The previous studies, despite the problems presented earlier, suggested a significant difference between ganzfeld and dream scores, the latter showing a higher positive scoring rate than the former. This

study hypothesis was that a significant difference in the scoring rate would be observed between the ganzfeld and the dreaming, in favour of the dreaming. As pointed out before, the first study had just one participant while the second one had 10 participants. The need for a larger sample size in order to replicate their findings was taken into account for the present study. The reason why the ganzfeld might have been producing misses is not approached by the authors in their article.

Twenty volunteers participated in the present study. Each of them, in a within-subject design, completed two trials, with two conditions each, one for ganzfeld and another for the dream condition. The condition order was constant for all participants: first they had the (G-D order) sequence, and second they had the (D-G order) sequence. The reason for keeping that condition order constant came from study 2, where better results were obtained for the (G-D order) sequence applied first, followed by the (D-G order) sequence. However, better results were obtained in the previous study towards the dream direction, and so, it seems reasonable to that they should have a counterbalanced condition for this study as well to avoid order biases. As in the previous studies, a common target was used for both conditions. The ganzfeld and dream procedures, using a clairvoyance technique, were used essentially in the same way as for the previous studies. The participant and the experimenter acted together as judges for the judging period, assessing the two protocols against a set of four pictures, the target and three distracters. After the completion of the judging session, for both ganzfeld and dream conditions, feedback was given.

Kanthamani and Broughton hypothesised that a significant difference in the scoring rate would be observe between the ganzfeld and dreaming conditions in

favour of dreaming. A one-tailed p at .05 level was set as the criterion for significance. The combined score of the two judges to test the main effects procedure, used in the previous studies, was followed here as well. The order effect, regarding the experimental design of two conditions, ganzfeld and dreams, with two order presentation, first and second, was taken into account in relation to the main hypothesis by means of a 2-way ANOVA, followed by t -tests in order to determine the significance of individual comparisons. The pooled judges' scores, were derived by combining their respective ratings on different targets in a set, and transforming them into z -scores following Stanford's method (Stanford & Sargent, 1983). For each ganzfeld or dream condition in a trial, z -scores were obtained independently.

The two conditions main effect provided an $F(1, 19) = 3.699, p = .035 (1t)$, suggesting a significant difference between ganzfeld and dream conditions. The ganzfeld mean z score is .089, and the dream mean z score is .331, confirming the scoring difference prediction in favour of the dream condition, which is strongly significant $t(19) = 3.521, p = .0023 (1t)$. The ganzfeld scores are also above chance but not significant ($t = .607$). The presentation order attested an $F(1, 19) = 2.065, p = .167 (2t)$, suggesting a weak order effect.

Finally, the results show a condition effect, showing a significant difference between ganzfeld and dream conditions, in favour of the dream condition which is independently significant. For all three studies, the dream condition appeared to be more successful, in terms of positive scoring, than the ganzfeld condition. Kanthamani and Broughton (1992), pointed out that "perhaps naturally occurring altered state functions more efficiently in gaining psi-information, than during the laboratory induced altered state condition" (p. 12), however there is no evidence to

suggest that that is the case. One must remember, as pointed out by Alvarado (1998) and Wackermann, Putz, Buchi, Strauch & Lehmann (2000), the ganzfeld stimulation itself gives no guarantee of an altered state of consciousness achievement. Only with the use of physiological equipment or self-report measures is it possible to attest which state of consciousness participants achieved under ganzfeld stimulation. In summary, Kanthamani and colleagues found the dream to be a better vehicle for psi enhancement than the ganzfeld in their studies, and that participants' own home environments might be relevant to that finding.

Discussion and Conclusion

The ganzfeld studies in parapsychology arose out of ideas related to dream-telepathy studies, and other studies such as meditation ones. However, the ganzfeld technique provided a faster method of collecting data because of not having to rely on participants to produce a dream or rely on dream recall. The ganzfeld appears to promote a state of consciousness which is characterised by physical and mental relaxation, and sensory isolation, that stimulates the person to attend to information generated internally. This state of consciousness appears to be induced by the relaxation procedure and environment in the ganzfeld. It is believed that a progressive relaxation and a reduction of sensory input is psi conducive, and the ganzfeld procedure promotes just that. Therefore it is considered a conducive method to demonstrate psi phenomena. Nevertheless, as any experimental procedure, critical points have been made by both researchers and critics through the ganzfeld history in parapsychology, as shown in the Hyman and Honorton ganzfeld meta-analysis. As a result, the ganzfeld procedure has improved consistently since the first ganzfeld

experiments conducted in 1973. It is argued that the ganzfeld contributes largely to parapsychology offering a methodology which allows for laboratory controlled experiments under tight conditions.

It is suggested that the ganzfeld psi-effect is large enough to be of both theoretical interest and potential practical importance (e.g., Bem and Honorton, 1994; Honorton, Berger, Varvoglis, Quant, Derr, Schechter, & Ferrari, 1990). Nevertheless, as a result of a meta-analytical study of some recent ganzfeld experiments conducted by Milton and Wiseman (1997a), it was suggested that the ganzfeld alone "is no guarantee of a successful study". However, as pointed out by Schmeidler & Edge (1999), their work was criticised. For instance, Milton and Wiseman included experiments that obtained negative results using non-standard ganzfeld protocols. Such evaluation of standardness was potentially biased because they were made with knowledge of the associated ESP results. Nevertheless, Milton (1999) showed disagreement among parapsychologists as to what a standard ganzfeld protocol was. More recently, an updated meta-analysis of post-PRL ESP-ganzfeld experiments, which looked for the effects of standardness, was conducted by Palmer and Broughton (2000). They provided a standard ganzfeld definition through a description of general PRL ganzfeld methodology (Bem & Honorton, 1994), and a method section of the primary report describing the PRL autoganzfeld studies (Honorton et al, 1990), for three psychology post-graduate students who rated independently the method sections of 40 post-PRL ganzfeld studies having no knowledge of psi results. The meta-analysis conducted by Palmer and Broughton (2000), of the 40 post-PRL ganzfeld studies found that those studies are now statistically significant (by Stouffer z). A Stouffer z transforms statistics drawn from

many studies so that a researcher may assess the success of series of experiments. Thus the updated meta-analysis of the post-PRL studies obtained a significant Stouffer z supporting the ganzfeld procedure as replicable. However, they pointed out that even the standard post-PRL studies presented a high degree of heterogeneity showing that standardness does not exhaust the list of factors that predict ganzfeld results.

Further learning is needed about which factors are important to psi enhancement in the ganzfeld. For instance, it is not possible to say that the ganzfeld procedure induces an altered state of consciousness for all participants, and if not so, it is not known exactly why some are able to achieve that and others are not. For example, it is not known if halved table tennis balls are indeed important to generate a unpatterned field, or if eyes closed or eyes open differ in the achievement of that, if the relaxation induction at the beginning of the session does indeed relax participants, and whether the fact that during the mentation participants must say loudly their images and feelings, might in some way interfere with their relaxation state. Are these patterns or regularities in the ganzfeld experience reports which would allow identification target correspondences that could be useful for the prediction of a psi-related data, and so on and so forth. Only further research about the ganzfeld will allow us learning about these and other issues which are still unexplored.

The series of studies comparing ganzfeld and dream conditions using clairvoyance technique carried out by Kanthamani and colleagues, suggested the dream condition was more successful than the ganzfeld condition in gaining psi-information. However, it seems as though more evidence is needed to confirm this trend as procedural flaws were found in those studies which could have led to those

results. For instance, in the Kanthamani et al (1988) study, they have a common target for both conditions having the ganzfeld trial followed by the dream trial order aiming to learn whether the psi-stimulus of the ganzfeld would be later incorporated into the participant's dreams. It seems that with this design participants could have a hint in the ganzfeld and a chance to elaborate more in the dream condition, so one would expect dream results to be better than the ganzfeld. The authors' question regarded whether judges would identify the target better with ganzfeld mentation or with dream mentation. However, it seems that a bias towards better results for the dream condition was already present given the study trials' order, having dreams always last. Regarding the comparison of ganzfeld and dream conditions in relation to their relative influence on a psi task, this study seems to have a procedure that favours the dream condition as showed above. However, it is not clear that coming second, the dream condition had a hint of the target from the first condition in its favour. Perhaps, if content analysis was performed in the ganzfeld and dream reported experiences reports, one would have some evidence for or against that. In the following study, the authors took into consideration some of the problems with this study.

In the second study (Kanthamani & Khilji, 1990), as in the previous one, the dream condition inclined to give significant above chance results and the ganzfeld bellow chance results. Although the authors attempted to address the problems of the previous study in the present study, there is still a problem with this study. They predicted, based on the previous results which did not obtain significant results, that significant differences in scoring direction would be found, with a significant missing in the ganzfeld data and significant hitting in the dream data. However, there is no

evidence to suggest such a trend in this study, on the contrary, there is evidence to suggest that overall significant results would apply for both conditions, the ganzfeld and the dream.

In the third study, Kanthamani and Broughton (1992) pointed out that the apparent superiority of dreams over ganzfeld added with the tendency for the condition judged second to be better, might add to the ganzfeld first and dream second order sequence to accentuate the finding of ganzfeld-dream differences. One might speculate based on these studies' procedure and results, that the ganzfeld and dream conditions together, with the ganzfeld/dream order condition, appear to be better than the ganzfeld condition alone to provide significant results. However, it seems as though there is not enough evidence to suggest superiority of dreams over ganzfeld in general.

Ganzfeld and dreams continue to be altered states of consciousness which appear to be conducive to psi enhancement, and are used as tools in this thesis investigation, as shown in chapters 4 and 5. Finally, a further discussion about the ganzfeld, and dream and ganzfeld studies takes place in the final chapter of this thesis, chapter 8.

CHAPTER 4

EXPERIMENT I: THE DREAM ESP EXPERIMENT

This thesis reports the results of two experiments, the Dream and the ganzfeld, with all participants doing both Dream and ganzfeld experiments. The experiments were designed to investigate each of these procedures individually in order to learn something about the psi-process through the reported experiences of these procedures. The Dream experiment procedure and results are presented in this chapter. There are features common to both the Dream and the ganzfeld procedures which are presented in this chapter under the subtitle 'General Method', and that are referred to as well in the next chapter, chapter 5.

Introduction

As seen in chapter 2, some of the most consistently reported psi experiences occurred in different kinds of altered states of consciousness, such as when dreaming. Dreaming is an altered state of consciousness which is experienced by all individuals to various degrees and that appear to be a common vehicle for psi information acquisition.

Laboratory approaches to the study of psi manifestation in dreams, such as the Maimonides Dream telepathy study presented previously, showed evidence of ESP manifestation in dreams. Moreover, some simplified Dream studies have been reported without the use of sleep laboratory facilities showing results consistent with those of the Maimonides Laboratory. Therefore, the dreaming state appears to be conducive to psi.

However, little is known about what is involved in the ESP Dream process, and further research is needed to learn more about this process. The Dream experiment in this study was designed to investigate ESP manifestation in dreams, and to provide qualitative data to allow for Dream content analysis.

Research that deals with the qualitative analysis of dreams, such as Dream content analysis, appears to be a tool to allow further investigation of what people report about their experiences. The Hall and Van de Castle Dream content analysis system (1966), presented below, was chosen to be used in this study because it is agreed to be the most complete documented analysis system to date (Domhoff, 1996).

General Method

Participants

There were 50 participants in this study. Participants were students of the Parapsychology Unit of Curitiba, Brazil, (Unidade de Ciências Bio-psíquicas do Paraná), and non-students as well. Sixty per cent of the participants were parapsychology students, ten per cent were composed of staff members of the Parapsychology Unit, eight per cent were psychology students, sixteen per cent were members from the public, two per cent were computer sciences students, two per cent were biology students, and two per cent were medical students. Seventy-two per cent of the participants were women, while twenty eight per cent were men. The age range in this study was twenty to sixty one, and the mean age was 34.36 (SD = 11.74).

Instruments

Prior to either experiment, at the first session, three questionnaires were completed in advance by participants: the Participant Information Form Questionnaire (PIF) (Appendix 4), the Vividness of Visual Imagery Questionnaire (VVIQ) (Marks, 1973) (Appendix 5), and the Gordon Test of Visual Imagery Control (Gordon, 1949) (Appendix 6).

The PIF, which is regularly used by the Koestler Parapsychology Unit (KPU), is a demographic survey questionnaire modified by staff members of the KPU and based on the PIF developed by Charles Honorton. Versions of this questionnaire have been used in various parapsychology studies (e.g., Morris, Dalton, Delanoy & Watt, 1995; Zingrone, Alvarado & Dalton 1998-99). The KPU version contains 77 items covering general information on participant demographics, background, and experiences. The VVIQ, and Gordon questionnaires are described below. At the end of each session, the General Imagery Characteristics Questionnaire (GICQ), constructed by the author, was applied before participants learned the target identity. The GICQ include six items, four of which were about general imagery characteristics, and the other two were about how much participants enjoyed being tested in the ganzfeld (artificially-induced condition), and why (Appendix 7); or in the Dream (naturally-induced condition), and why (Appendix 8). At the end of the ganzfeld session two state report questions were included as well to assess if participants experienced an altered state of consciousness during the ganzfeld condition, and to what degree (Appendix 7). Participants were instructed to indicate their state of consciousness during the ganzfeld condition using numbers from 1 to

10, where the lowest number, number 1, indicated an awake state, and the highest number, number 10, attested a strongly relaxed/altered state of consciousness.

The PIF and the GICQ were translated into Portuguese and slightly modified by the author, but no major changes or rearrangements were felt to be necessary because the meaning of the questions in English were close enough to their meaning in Portuguese. A review of the PIF and GICQ questionnaires was carried out independently by five Brazilian assistants who had knowledge of parapsychology in order to assure the comprehensiveness of the questions with regard to the Brazilian cultural context. After their revision of the material, these questionnaires were updated to take account of the few comments and minor changes suggested by the assistants, and then revised by them in a second time. After the second revision, they unanimously agreed that the questions were clear and understandable, and that the final versions of the questionnaires were ready. The final version were then given to four people who had no knowledge of parapsychology and who were asked to focus on the questions to certify if they were clearly comprehensible. The purpose of this was to assess how well they understood the questions given that they didn't have previous knowledge about parapsychology and had never seen the questionnaire before. All of them attested that the PIF and the GICQ were clear, and no more changes were made to this material.

The VVIQ, administered originally by Marks (1973), is an instrument that has been used as a trait-measure of individual differences in visual imagery vividness (Marks, 1973). The questionnaire has 16 items and a rating scale from 1 to 5, where 1 signifies 'perfectly clear and as vivid as normal vision', and 5 signifies 'no image at all, you only 'know' that you are thinking of the object'. The total score of the VVIQ

is considered to be a mixture of content-state and trait-related properties, where a lower score is given to more self-reported vividness of visual imagery while a higher score is given to less self-reported vividness of visual imagery. It has been suggested that vividness of visual imagery could be related to psi performance (e.g., Delanoy, 1988-89; George & Krippner, 1984; Honorton & Harper, 1974a). Moreover, it has been suggested that ESP responses are usually mediated by visual imagery (e.g., Honorton & Harper, 1974; Honorton, Tierney, & Torres, 1974), and that visual imagery might be associated with psi-hitting (Sargent, 1980), and that persons whose thinking is characterised by vivid mental images perform better on psi tasks (Stanford, 1969).

Marks (1973) primarily administered the VVIQ twice, with eyes closed and with eyes open. However, no significant difference was reported between scores obtained in the two conditions (White, Sheehan & Ashton, 1977). In some parapsychological studies the VVIQ has been used without specific instructions regarding to the eyes closed condition or eyes open condition (e.g., Alvarado, 1987; Alvarado & Zingrone, 1994; George, 1982). That's because for some people eyes closed could be better and for others eyes open could be better; therefore, without any specific instruction about that participants could choose between the two naturally. Three Brazilian assistants were asked to answer the VVIQ prior to the beginning of the official study, with eyes closed and with eyes open, in order to choose which condition was more appropriate in their opinion. All three favoured the eyes closed condition, which was then used for the present study. In addition, visualising in both ways would take twice the time. All the information regarding the scale itself was provided in the text within the VVIQ (Appendix 5). Participants

scored the questionnaire themselves. Regarding the validity and reliability of the Mark's VVIQ as being a test of vivid imagery (e.g., Ahsen, 1990; Campos & Sueiro, 1993; Council, Chambers, Judit & Good, 1990-91; McKelvie, 1986; McKelvie, 1993; McKelvie & Demers, 1979), the reader must keep in mind that the purpose of using the VVIQ in this study is to correlate reports of vivid imagery experiences with ESP scores.

The third questionnaire used in this study is the Gordon Test of Visual Imagery Control Questionnaire, which measures the controllability of imagery (Gordon, 1949). This instrument provides two categories of participants on the basis of the questionnaire: autonomous and controlled. Autonomous are persons with a low degree of control over their images, and controlled are persons with a high degree of control over their images. The purpose of using the Gordon Test of Visual Control in this study is to relate degree of imagery autonomy with ESP scores. The Gordon test asks participants about how well they can manipulate images. A study showing that autonomous imagers revealed greater intersubject psi-scoring variance than controlled imagers was conducted by Price (1973). Price suggested that autonomous imagers, who have a low degree of control over their images, may score higher on psi tasks than controlled imagers, who have a high degree of control. He considered that psi-mediated information appears to emerge spontaneously from unconscious levels, and that autonomous imagers would have less control of the flow of information between conscious and the unconscious. The order of application of the PIF, VVIQ, and Gordon Test of Visual Control, for both Dream and ganzfeld sessions, was counterbalanced to avoid sequence effects.

General Procedure

Fifty participants, all volunteers for both ganzfeld and Dream sessions, were recruited for the Brazilian set of experiments by publicity about the research project generated directly and indirectly through lectures. All participants were Brazilians. The lectures were given, by the author, to students and personnel at the Bio-Psychical Sciences Unit of Paraná (Unidade de Ciências Bio-psíquicas do Paraná), in Curitiba, Brazil. In them I explained about the ganzfeld and Dream experiments about to start in that College, seeking for volunteers. The author's first contact with the potential participants took place mostly at this Unit, in Curitiba, where the ganzfeld laboratory facilities, used in this research, are located. Some students however, brought to our attention other potential participants who were not students of this Unit or directly connected to it, but were willing to take part in both experiments. Potential participants were asked by the author about the frequency of their Dream recall, and those who said they never recalled their dreams were excluded.

Only those volunteers who had reported capacity for Dream recall through the PIF, that was administered to those who demonstrated interest in taking part of the experiments, were accepted. Moreover, participants were aware that they were not receiving any money for participating in the experiments. All participants signed a consent form prior to their first experiment regarding to their understanding of the nature, and experimental procedures involved in the study (Appendix 9). However, participants were not told about the experimental goals of this study. Participants were informed that the purpose of the study was to conduct a parapsychological study to compare ganzfeld and Dream written reports. In addition, they were told that the study comprised an analysis of the content of the ganzfeld and Dream reports

seeking to find patterns and regularities within the ganzfeld reports data alone, and within the Dream reports data alone, and also between the ganzfeld and Dream written reports all together. They were also told that the idea of conducting the study in Brazil was to further our knowledge about psi in cultures such as Brazil, where only a small amount of parapsychology research has been done to date.

They also signed after the ganzfeld session, a 'retroactive' form attesting that they had naturally returned to their normal consciousness state after being exposed to the ganzfeld induction state (Appendix 10). The 'retrospective' form was used essentially to assess, and to ensure that participants were indeed feeling well before leaving the laboratory facilities, and also to avoid any later complaint or lawsuit by them against the author or the Institution where the ganzfeld facilities are located. No problems were registered regarding this issue and nobody claimed they were not able to naturally return to their normal conscious state.

Each participant took part in two clairvoyant trials, one for the ganzfeld condition and one for the Dream condition, using a within-subject design. The order of the trials were counterbalanced, so half of the participants had the ganzfeld condition first, and the Dream condition second, and the other half of the participants had the Dream condition first, and the ganzfeld condition second.

Target Material

The ganzfeld and Dream target pools each consisted of distinct target pools of 35 sets of 4 static targets of pictures, composed of postcards, that were put together by an assistant who didn't participate or have any contact with the experiment or the participants. Attention and care were taken by five assistants, who

worked together, to provide sufficient within-set diversity in term of theme, content, and style to the target pool. Each of the individual pictures in a set had their own code numbers and had exactly the same size and weight, and were kept in envelopes which had their outside marked with an identity number from 1 to 4. Target sets for the Dream series were marked with serial numbers from 1 to 50, followed by the symbol 'D' standing for Dream, and the sets for the ganzfeld series were marked with serial numbers from 1 to 50, followed by the symbol 'G' standing for ganzfeld. All of them were stored in sealed envelopes in a locked filing cabinet from where they were recovered for the respective trials. Therefore, each of the target pool envelopes contained a number and a symbol, the number corresponding for the actual trial, and the symbol for the Dream or ganzfeld sessions.

For judging a duplicate set of the target and three distractor pictures were kept in envelopes which had their outside marked with a number from 1 to 4, and which were kept together in a bigger opaque sealed envelope, locked in a file-cabinet in the ganzfeld experimental facilities. Duplicate sets for the Dream condition were ordered from 1 to 50 followed by the symbol 'DD', standing for Dream duplicates pool. And duplicate sets for the ganzfeld condition were ordered from 1 to 50 followed by the symbol 'GD', standing for ganzfeld duplicates pool. After the target sets and duplicate sets were used during either trial, they were resealed in new envelopes and replaced in their original order. No unauthorized person had any access to the target pool.

The target pictures for both the Dream and the ganzfeld condition trials were chosen randomly, in advance, by an assistant based in Edinburgh, using a computer program. The program uses a randomization routine making use of the

Quick Basic 4.5 pseudo-random algorithm. Basically, the program had a list of the target sets, provided by the author, and shuffled them in choosing 2 sets at random in the data, swapping them, and then repeating that choosing swapping 10.000 times. Two numbers were accessed, the first to indicate a target set (1-50), and the second to identify a target envelope (1-4) within that set, creating a target pack list (e.g., 34-2, 5-4, 49-1, and so forth).

The target pack list was sent, by email, to an assistant in Brazil. This Brazilian assistant, who had the targets ready, placed them and the duplicates in distinct opaque sealed envelopes for the first set of 10 Dream trials, and for the first 10 ganzfeld trials, providing them to the experimenter. After the completion of the first set of 10 Dream and ganzfeld trials, the experimenter gave target and duplicate materials back to the assistant, who then placed the next 10 Dream and ganzfeld targets and duplicates in new distinct opaque envelopes, providing them to the experimenter. This procedure was continued until the completion of the trials.

The experimenter was completely blind to the targets, as well as to duplicates, and kept them secured and locked in a file cabinet for which only himself had the key. The target pool remained in opaque special sealed envelopes with numbers from 1 to 50 for the Dream and ganzfeld conditions. The envelope number corresponded to the order of the trial (e.g., envelope D1 was for the Dream trial number 1; envelope G1 was for the ganzfeld trial number 1; envelope D2 was for the Dream trial number 2; envelope G2 was for the ganzfeld trial number 2, and so on).

For each trial, one envelope, with the target, was locked by the experimenter, prior to the experiment, in a special locker windowless room in the experimental suite. Only the experimenter had the key to the special locker.

Participants were shown the room in the experimental suite, by the experimenter, where the target was placed and locked, prior to the trial. Participants were never left unattended in this room.

Overview of the Dream Procedure

The Dream ESP portion of the experiment follows a clairvoyance technique. A friendly, comfortable, open, trusting and supportive rapport between participants and the experimenter was established. A tour was given to familiarize participants with the laboratory facilities, and with the experimental suite room where the target was placed for the trial, which is 120m away from the ganzfeld meeting room, located within the ganzfeld laboratory facilities (see Figure 1). The Dream condition method was explained to participants using the ganzfeld meeting room, where cookies and tea and refreshments were offered (see Figure 2). All questions and doubts participants had were discussed and explained at that opportunity, without any rush. Participants were tested in a natural environment, their own homes, and were asked to attempt to retrieve target information during their normal nocturnal dreams. They received written instructions, prior to the Dream experiment, asking them to have writing material available beside their bed in a accessible place on the night of the experiment, so they would be able to take notes of their dream's content as soon as they awoke. Participants were asked to take note of the time they wrote their dreams' content as well. Within the instructions, participants were informed that experimental research has shown that extra sensory perception information can be incorporated into humans' dreams such as, for instance, through clairvoyance. They were instructed to ask themselves, in a very gentle way, to receive

the information related to their trial’s target, through their dreams, while they were dreaming during the night of their experiment. In addition, whilst making this gentle wish, they were to remain relaxed, without too much effort or expectation, and to wish to remember this information upon awakening in the morning. After that they were asked to relax, and sleep well.

Figure 1
Ganzfeld Laboratory in the Bio-Psychical Sciences Unit of Paraná
120 m.

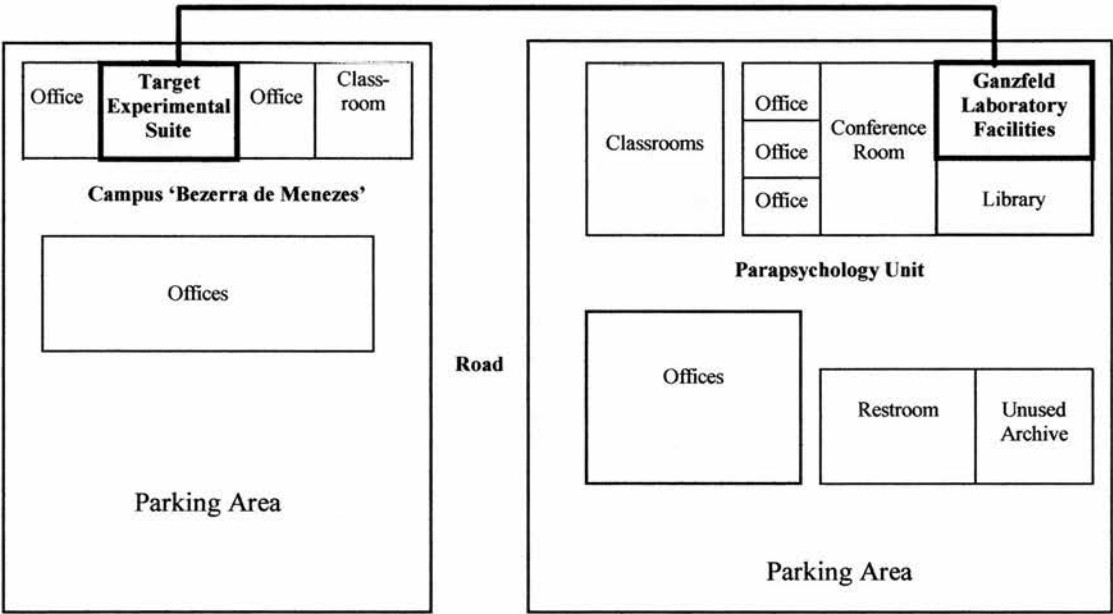
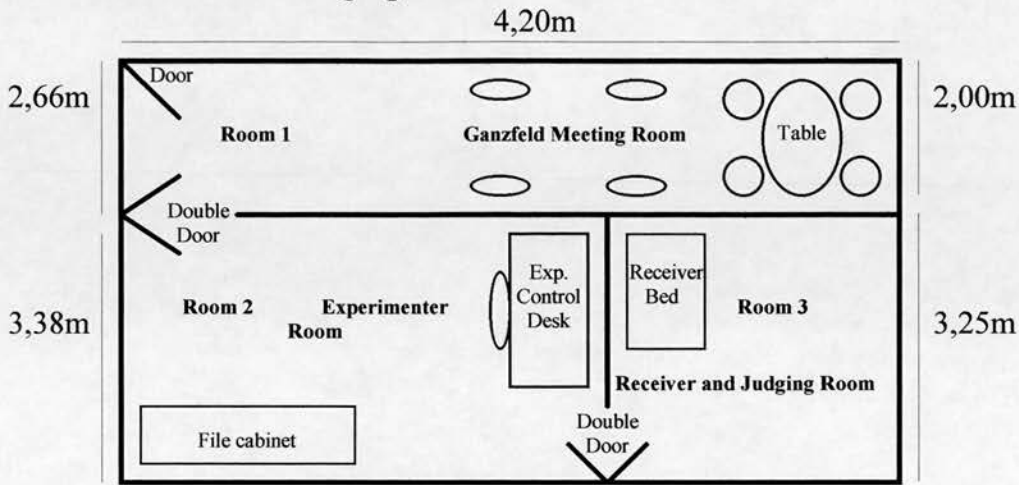


Figure 2
Ganzfeld Laboratory Layout

Room 1 - Ganzfeld Meeting Room
Room 2 - Experimenter Room
Room 3 - Receiver and Judging Room



If participants have more than one Dream through the night they were asked to summarize them on the same form provided, one after another. Participants were instructed to provide intelligible written Dream reports of their impressions of the target for each trial, which then were used for the judging session. Verbal instructions were given to participants in order to provide a Dream report, and were parallel to the ones given to participants to provide the ganzfeld report, which were basically to summarise the images, feelings, sensations, and experience they had as a whole in a written report.

If participants were not able to remember their dream’s imagery content after the Dream trial, they were asked to repeat the trial again on another day, using the same target. Participants were asked to bring the report of their dreams to the laboratory for the continuation of the trial, as soon as possible, following the

experiment. All participants agreed to follow the above instructions. The target picture, randomized in advance by a third person, remained locked during the night of the experiment in the same experimental suite used for the ganzfeld experiments, for which only the experimenter has the room's special locker key.

When participants arrived at the ganzfeld laboratory facilities with their Dream report, the experimenter read back the Dream report to them, tape-recording it, allowing them time to elaborate on the feelings, sensations, and memories they had in relation to their Dream imagery. In addition participants answered a 6-item questionnaire, already described in the instruments section of the general method. This questionnaire contained questions assessing if their imagery was vivid, definite or clear, unusual imagery or whether they have lots of imagery or not, if there was a persistent theme represented by images during their dreams, and how much they enjoyed being tested in this condition, and why (Appendix 8). Then the rating form of judging was explained by the experimenter. Participants were asked to rate their Dream imagery to the target set of 4 items using the duplicate set of target items. The participant was made to understand that one of the four items had been randomly chosen as their target, and that their judge was to rate each one of the items, on a scale which ranged from "0" to "99," with a rating of "0" being considered to mean that no similarities existed between the content of their dreams and that particular item, and "99" being considered to mean that the particular item was an exact match of the content of their dreams. Once each of the four items in the target set had been rated, a rank was assigned to each item such that target which received the highest rating of Dream content to target content similarity was assigned a rank of "1," the target which received the next highest rating was assigned a rank of "2," and so on

until the target set item which received the lowest rating was assigned a rank of “4.” The participant was made to understand that, by doing this, they were judging which of the four items was their target (the item assigned the rank of “1”) and that they were then arranging the other three items according to their level of similarity to the Dream content. After the completion of their task, participants were asked to sign the judging form (Appendix 11). The instructions given by the experimenter to participants regarding the judging procedure are presented in Appendix 12. The target was shown by the experimenter to participants after the completion of the judging period. The experimenter left the participant in the ganzfeld facilities and picked the target up in the target room, located 120m away from the ganzfeld facilities, coming back to the ganzfeld facilities, three or four minutes after leaving, with the sealed target envelope which was then opened in the receiver’s room and in front of the participant.

Various ganzfeld studies had both the participant, and an independent judge acting as judges for the trials. Some of these studies have shown that participants’ judging based scores had a greater degree of psi-hitting than the independent judges (e.g., Sargent, Bartlet, & Moss, 1982; Sondow, 1979; Child & Levi, 1980). However, in another study, Palmer, Khamashta, and Israelson (1979) found that independent judges were able to detect mentation-related correspondences better than participants. These judges were research assistants who were familiar with parapsychological research though, and may have had greater experience in judging comparing to the independent judges of previous studies. The present study had just the participant acting as a judge during the judging, and no independent judge was used in this study. The ratings produced for each target set item and the ranks

assigned were preserved on the judging form and were used to generate the overall ESP score for the Dream condition (That is, no individual ESP score was given to the participant, and the participant's only feedback on their effectiveness as a participant was their being shown the actual target at the end of their judging session).

The problem of alteration of responses to fit the target feedback, pointed out by Milton and Wiseman (1997b), was taken into account by the author. They argue that the possibility of alteration of data generated during the experiment could take place after the target identity is known, and to avoid this possibility a copy of the session responses should be taken and kept by a third person before the identity of the target is known. The author himself duplicated the Dream and ganzfeld responses, as soon as he could making photocopies of this material and not allowing any additions or alterations to them thereafter. One copy of this material was given to a third person in Brazil, who is keeping it in a different location, as suggested by Morris (1986). The decision of having the author, instead of a third person, doing photocopies of the sessions responses, and also doing that after the completion of each trial, took into consideration that the experiment sessions were expected to be done at various times of the day and the night, including weekends and holidays where no assistance would be available to do that. Under these circumstances it was not practicable to have a third person available to do the photocopies for every one of the 100 experiments conducted in various times of the day, and days of the month. The reader must remember that the Dream and ganzfeld responses were tape recorded and kept by a third person in Brazil, who double checked all the Dream and

ganzfeld responses against the respective recorded tapes, and no alteration was found.

After the completion of the judging session, both participant and experimenter signed the judging form, and the experimenter collected the target in the experimental suite. Target feedback was given in the participant room, in the ganzfeld laboratory facilities.

Hypotheses and Planned Analyses

The hypotheses were specified prior to the beginning of the study. Hypothesis one, that there would be significant positive results among the Dream condition (2t). Hypothesis two, that there would be a significant and positive relationship between Dream condition ESP scoring and vividness of visual imagery scores (1t). All the other analyses were exploratory, this includes the following variables: demographic variables, psi experiences, Dream experiences, attitude towards the Dream session, imagery experiences, and others (2t).

Participants' ratings to target set items and the resulting rating to the actual targets with their assigned ranks were entered into SPSS as raw data. Individual ranks to actual target items were added together to produce the Sum of Ranks statistic (Solfvin et al, 1978). In this case, because there are 50 participants, the possible range of the sum of ranks statistic is from 50 to 200. If a Sum of Ranks of 50 had been obtained, the participants would have all gotten what are known in parapsychology as "Direct Hits," that is they would have all assigned a rank of "1" to the actual target, indicating the greatest correspondence of Dream content to target item content. If a Sum of Ranks of 200 had been obtained, the participants would

have all gotten what are known in parapsychology as “Direct Misses,” that is, they would have all assigned a rank of “4” to the actual target, indicating the least correspondence of Dream content to target item content. It is extremely improbable that a group of participants will assign identical ranks to targets, and consequently, there are normally a variety of ranks assigned to targets through the study. Consequently, the Sum of Ranks calculation includes the conversion of the raw added ranks into a z-score, which is a standard score that takes into consideration the distance of the overall sum of ranks from a mean chance expectation (that is ranks of “2.5” to each target item), moderating that by the distribution of ranks obtained. (A continuity correction factor of + or - .5 is also added into the equation.) The formula used to calculate is the Raw Sum of Ranks minus the mean chance expectation (which is the number of trials times the number of possible ranks plus one, that quantity divided by 2), corrected by the continuity correction and divided by the square root of the number of trials times the number of ranks squared minus one, that quantity divided by 12. The resulting Sum of Ranks z-score is analogous to a normal z-score, and the normal distribution Table may be used to determine the probability of the outcome. This statistic is normally used in parapsychology in free response research in which a finite number of target set items and distractors are prepared for each participant produces a raw rank as a measure of the “match” of their responses to each target set item.

For the purposes of correlating individual participants’ trial scores to other variables in a study, the field of parapsychology has moved away from utilising the raw ranks. First, the truncated range of scores available with the ranking system (1 through 4 only) might effect the validity of the outcome of a correlation. It has been

found in conventional statistics that when truncated ranges of scores with little variability are correlated with other values, the overall correlation that exists between the data sets is underestimated. More importantly for parapsychology experimenters have noticed that participants assign ratings to target set items in very idiosyncratic ways. One participant may have a lot of confidence that a particular target set item is indeed the actual target and give ratings of 99 to that item, and 1, 6, and 8, say to the other distractors. Another participant may not be able to distinguish the actual target so clearly and make assign a rank of 60 to the actual target and 58, 40, 46 to the other distractors. By using only the resulting ranks of “1” in analysing data further, a great deal of variability within participants and between participants is lost. Consequently, in 1983, psychologists Rex Stanford and Carl Sargent published what is now know as the Stanford z -score method to convert rating data in free-response studies into z -scores. The resultant z -scores could be used to assign probability values to the individual trials, and also to correlate ESP scores to other variables. The Stanford z -score, like the Sum of Ranks z , is a standard z -score that takes into account the distance of the rating to target from the mean of the other ratings produced by the individual participant, and this is moderated by the standard deviation of the distribution of ratings produced. (A continuity correction is also used in this z -score.) Consequently it was decided to produce Stanford z -scores for each individual participants. These z -scores were then deemed “ESP scores” for the individual participant and were used for the purpose of correlation, and when future paragraphs talks about “mean ESP scores,” this term should be understood to mean the mean z -score of the rating to the actual target. In addition, the use of the Stanford z -score as the individual measure of ESP scoring allows the experimenter to retain

individual differences in rating behaviour when doing overall analyses, something which would be lost if overall analyses used only ranks.

Nothing definitive is known in parapsychology about the distribution of ESP ability among the general population. Because of this many parapsychologists prefer to analyse their data using non-parametric statistics which do not require the assumption that the population of scores to be tested is normal. Beyond the initial test of significant deviation from chance expectations (the Sum of Ranks z -score), it was decided that all other analyses in this thesis would be tests of difference and tests of correlation. Specifically, analyses would be done using the Mann-Whitney U test, a non-parametric substitute for the t -test procedure, and the Spearman Rank Order correlation, a non-parametric substitute for the Pearson Correlation technique. Just as the t -test does, the Mann-Whitney U test analyses differences between conditions independent groups of participants (such as the subset of my participants who have experienced telepathy versus the subset who have not). The Mann-Whitney U test may also be used to analyse differences between two sets of scores taken from the same population, such as the Dream condition ESP scores versus the Ganzfeld condition ESP scores. The Mann-Whitney U test combines two samples of data and assign ranks to the individual values. Once this has been done, the two samples are separated and mean ranks for each sample are derived. A U statistic is calculated which is then converted into a standard z -score for the purpose of finding the probability value assigned to the differences between the two groups. Both because parapsychologists are unsure of the distribution of ESP ability in the general population, and because most of the psychological and experience variables were

gathered using a ranking method, the standard psychological statistical, the Spearman Rank Order correlation method was used and interpreted in the normal way.

In parapsychology it is customary to develop a measure of the magnitude of effect present in the data. Consequently, in this study, I also calculated an effect size, using the formula proposed by Robert Rosenthal (1991). The formula is z divided by the square root of N where z is the raw z score which results from the statistic being used (such as a Mann-Whitney U z -score, or a Sum of Ranks z) and N is the number of participants who contributed to the score.

In summary, the analyses of this data required the obtaining of a Sum of Ranks z -score (the overall measure of ESP in the data), individual Stanford z -scores for each participants ratings to the target and distractors, Mann-Whitney U tests to test the difference between the ESP scores of subsets of the participants or between scores generated by the participants in the two conditions, Spearman Rank Order correlations to test the relationships of Stanford z -scores (or, "ESP scores") to other psychological and experience variables, and effect sizes, to test the magnitude of differences in statistical analyses that tested for differences.

Results

The term "ESP Score" is thus used in the tables and in the discussion as follows as signifying the use of the z -score of ratings to the target, or the overall Sum of Ranks z -score obtained from a specific subset of the participants. It is understood, that technically, evidence of "ESP" at the study level was not found.

Psi results for this study showed no signs of ESP, the overall results were at chance. For the 50 trials in this experiment a total of 13 hits were obtained, which

attests a hit rate of 26% as opposed to 25% expected by chance. This result does not support hypothesis one. The overall ESP score in Dream trials was non-significant at $SORz = -.07$, $MCE = 12.5$, $p < .24$ (2t), r (effect size) = .10. Table 2 shows the Direct Hit Results for Dream Trials.

Table 2
Direct Hit Frequency & Percentages in the Dream Trials

Rank	Frequency	%
1	13	26%
2	10	20%
3	10	20%
4	17	34%

Demographic Variables

The female participants ($N = 36$) obtained an ESP mean score of $-.06$ (that is, the mean of the Stanford z -scores for the Dream condition obtained by females), and the male participants ($N = 14$) obtained an ESP mean Score of $.35$ (that is, the mean of the Stanford z -scores for the Dream condition obtained by males). There was no significant difference between females and males on the ESP scores (Female Mean Rank = 24.00, Male Mean Rank = 29.35, Mann-Whitney $U = 306.00$, $z = 1.17$, $p = .24$ (2t), r [effect size] = .17). The ESP Scores were not significantly correlation with the participants' age, $\rho(50) = .07$, $p = .60$ (2t).

Psi Experiences

Table 3 shows the difference in Dream Condition Mean ESP Scores between groups of experiences and other participants who did not claim that specific

experience. Overall, an account of type of psi experiences claimed was obtained for the group of participants. It was found that participants had a range of claims from no psychic experiences (a score of “0”) to having experienced all the psychic experiences listed (a score of “6”). The mean number of different types of psychic experiences claimed for the entire group of participants was 2.90 (with a standard deviation of 1.65). Overall, Dream ESP scores were not significantly related to the number of psychic experiences an individual participant claims, $\rho(50) = -.03$, $p = .82$ (2t). On Table 3, the participants have been broken down into those who claimed to have had a particular type of psychic experience (such as “Clairvoyance Yes”) and those who have claimed not to have had that experience (such as “Clairvoyance No”). Mann-Whitney U tests were done on the mean scores of these subsets of the participants because in other studies differences have sometimes been found. As can be seen on Table 3, however, in this study, there were no significant differences between the experiencers and those who had not experiences something. The aim of this analysis was to explore relationships between Dream condition ESP scores and participants’ claims of experiences.

Table 3
Comparison of Dream Condition ESP Scores for
Experiencers and Non-Experiencers

Experiencers	Yes		No		Mann-Whitney U	z	p(2t)	r
	SORz	N	SORz	N				
Clairvoyance	-.02	14	-.07	20	144.00	.14	.89	.02
Telepathy	-.05	36	-.20	5	99.50	.38	.70	.06
Precognition	-.06	27	.17	11	131.50	.55	.58	.09
Psychokinesis	-.12	14	.30	18	98.50	1.04	.29	.18
Visions	.13	19	.07	16	167.50	.51	.60	.09
OBE	.03	35	.28	11	164.50	.72	.47	.11

Dream Experiences

Table 4 shows the correlation between Dream condition mean ESP scores and Dream experiences. The purpose of this analysis was to see if there was any correlation between Dream experiences and ESP Scoring in the Dream Condition. As the Table shows none of the analyses was significant. Forty four participants had answered 'yes' to the question regarding if they have ever had a lucid Dream, had a Dream condition mean ESP score of .01 (mean rank = 24.95), compared to the six participants that answered they did not experience lucid dreams (Dream condition mean ESP score = .41, mean rank = 29.50). The difference was not significant, Mann-Whitney $U = 108.00$, $z = .71$, $p = .47$ (2t), $r = .10$.

Table 4
Relationship of ESP Scoring in the Dream Condition to Dream Experiences

Dream Experiences	N	<i>rho</i>	<i>p</i> (2t)
Dream recall	50	-.04	.80
Dream different from ordinary experiences	50	.05	.75
Dream without recall of content	50	.09	.52
Lucid Dream frequency	44	-.14	.36

Attitude Towards the Dream Session

The analysis of attitudes towards the Dream session were not done because one of the attitudes had a very low number of respondents, ($N = 2$).

These analyses were conducted in order to explore the possible correlation of imagery characteristics to Dream condition ESP scoring. The scores of the VVIQ ranged from 16 to 76 with a mean of 37.34 (SD = 14.80). A low VVIQ score is related to high vivid visual imagery. Thirteen participants obtained a Dream condition mean ESP score of 38.38 (mean rank = 14.76) and seventeen participants obtained a Dream condition mean ESP score of 40.88 (mean rank = 16.05), Mann-Whitney U = 101.00, $z = .39$, $p = .69$ (2t), $r = .07$. The correlation between the Dream condition ESP scores and the VVIQ scores was not significant, $\rho(50) = -.10$, $p = .23$ (1t).

Table 5 shows the correlation between the Dream condition ESP scores and other imagery experiences measured by the PIF. As shown in Table 5, none of the analyses was significant.

Table 5
Relationship of ESP Scoring in the Dream Condition to Imagery Experiences
(N = 50)

Imagery Experience Characteristics	ρ	p (2t)
Daydream	-.06	.66
Ease to create mental image	.18	.20
Clarity of image	.18	.22
Clarity of hearing	.15	.29

Regarding the relationship between the Dream ESP scores and the scores of the Gordon Visual Imagery Test it was found that 44 per cent of the participants were classified as controlled while 56 per cent were classified as having autonomous imagery. The controlled group had a Dream condition mean ESP score of .13 (mean rank = 26.45) while the autonomous group had a Dream condition mean ESP score

of - .004 (mean rank = 24.75). The difference was not significant, Mann-Whitney U = 329.00, $z = .41$, $p = .68$ (2t), $r = .06$.

Alteration of Consciousness

As seen in Table 6, Dream condition ESP scores did not correlate significantly with different experiences of alteration of consciousness. This referred to alteration of consciousness in real life contexts. These analyses were conducted to investigate possible correlation between frequency of alteration of consciousness in real life context and ESP scoring.

Table 6
Relationship of ESP Scoring in the Dream Condition to Alterations in Consciousness
(N = 50)

Alteration of Consciousness	<i>rho</i>	<i>p</i> (2t)
Loss of awareness of surroundings when involved in an activity	.09	.53
Loss of sense of time when involved in an activity	.13	.39

Other Variables

Table 7 shows the correlation analyses with Dream condition ESP scores and other variables. With one exception, none of them achieved statistical significance. The exception was a positive correlation with belief in the existence of ESP. The belief in existence of ESP was measured by one of the PIF questionnaire questions.

Table 7
Relationship of ESP Scoring in the Dream Condition to Miscellaneous Psychological Variables

Variables	N	<i>rho</i>	<i>p</i> (2t)
Enjoy fantasy	50	-.10	.48
Reserved/Outgoing	50	.24	.09
Felt at different level while exercising	48	.08	.59
Belief in existence of ESP	50	.36	.01

In another analysis it was attempted to relate the Dream condition ESP scores to those participants that said they were raised in an environment with a tradition of paranormal ability ($N = 21$) and in relation to those without such environment ($N = 29$). The first group obtained a Dream condition mean ESP score of $-.15$ (mean rank = 22.55) while the second had a Dream condition mean ESP score of $.20$ (mean rank = 27.64). The difference was not significant, Mann-Whitney $U = 242.50$, $z = 1.22$, $p = .23$ (2t), $r = .17$.

The Dream ESP scores were analysed also in relation to participants' belief in their ability to demonstrate psi in an controlled laboratory experiment. The Dream condition ESP scores were not significantly correlated with participants' belief of demonstrating psi ability in an controlled laboratory experiment, $\rho(50) = .06$, $p = .65$ (2t). These exploratory analysis were conducted to investigate if any of those variables correlate with ESP scoring.

Dream General Imagery Characteristics

Participants were also asked about their Dream general imagery characteristics, and as shown in Table 8, the majority of the participants (84 per cent)

claimed to have had surprising imagery. The surprising imagery percentage obtained is significantly higher than the others. Surprising imagery was defined by them as appearing suddenly and unexpectedly. Table 9 shows the participants percentage of Dream general imagery classification, with the majority of them (76%) claiming to have had vivid imagery more than the others. These descriptive analysis were conducted to illustrate about the per cent of imagery characteristics and classification participants used to report their experiences.

Table 8
Prevalence of Specific Imagery Characteristics
(N = 50)

General Imagery Characteristics	N	%
Surprising imagery	42	84%
Lots of imagery	17	34%
A theme throughout the imagery or persistent imagery	17	34%
Usual Dream content	22	44%

Table 9
Quality of Dream Imagery Experienced
(N = 50)

General Imagery Classification	N	%
Vivid	38	76%
Clear	4	8%
Sharp	0	-
Unusual	1	2%
Stand out more than any other	0	-
None of them	7	14%

Summary and Conclusions

This experiment's results didn't show signs of ESP as the overall results were at chance. The reader must keep in mind that the sample used in this study was

composed mostly of parapsychology students, and that participants were selected on the basis of their Dream recall ability. That suggests they were not representative of the general population, and that was not intended.

The hypothesis that there would be significant results among the Dream condition hits was not confirmed. Out of 50 trials, a total of 13 hits were obtained, which attests a hit rate of 26 per cent where 25 per cent is expected by chance.

The hypothesis that there would be a positive relationship between Dream condition ESP scoring and vividness of visual imagery scoring was not confirmed, as the correlation between ESP scores and the VVIQ scores was not significant, $\rho = -.10$.

All the other analyses were exploratory and none was significant, with the exception of ESP belief which correlated positively with the Dream condition ESP scores. All these analyses were exploratory and conducted in order to investigate if correlations were to be found between participants responses on the PIF questionnaire and Dream ESP scoring. For instance, it is interesting that it was found a sheep/goat effect here. Parapsychologists have found that 'sheep' tend to score consistently positively at psi tasks, while 'goats' tend to score consistently negatively (Palmer, 1982; Schmeidler & McConnell, 1958; Lawrence, 1993). Schmeidler called 'sheep' the participant who accept the possibility of paranormal success under the conditions of the experiment as well as those who admit its likelihood of occurrence in the testing situation, while those who denied it were called 'goats' (Schmeidler & McConnell, 1958).

Milton (1991) suggested that some characteristics of psi-related mentation were surprising or unexpected imagery, and it was found that the majority (84%) of

imagery participants claimed to have had surprising imagery in their Dream general imagery characteristics questionnaire. Moreover, it has been pointed out that the vividness of the imagery could be related to psi (e.g., Delanoy, 1988-89; George & Krippner, 1984; Honorton & Harper, 1974; Milton, 1991; White, Krippner, & Ullman, 1968), and it was found that participants' general imagery classification showed that most of the imagery (76%) they claimed to have experienced was vivid.

The commitment of having to remember the Dream content in order to conclude the experiment could have generated a certain degree of anxiety in participants. However, despite of that, participants were able to remember and report their dreams in 96 per cent of the cases in this study. Only two participants had to repeat the Dream experiment because of failing to recall their dreams in the experimental night. The final chapter, chapter 8, will include a discussion of the Dream experiment in this thesis and what conclusions can be learned from these findings.

CHAPTER 5

EXPERIMENT II: THE GANZFELD ESP EXPERIMENT

As previously mentioned, this thesis reports the results of two studies conditions, the Dream and the Ganzfeld. This chapter presents the Ganzfeld experiment used in this study giving details of its procedure and results. The Ganzfeld experiment follows the general method and general procedure presented in the last chapter.

Introduction

As presented in chapter 3, the Ganzfeld studies in parapsychology were an extension of the ideas underlying the Maimonides Dream experiments and other altered states of consciousness studies. The Ganzfeld has shown substantial evidence that it resembles a kind of night-time Dream-like state that promotes a state of consciousness which is characterised by physical and mental relaxation, and sensory isolation which stimulates the person to attend to information generated internally.

A strong case has been built suggesting that the Ganzfeld psi-effect is large enough to be of both theoretical interest and potential practical importance. However, there is still more to be learned about which factors are important to psi enhancement in these conditions. One way of doing that, which was adopted in this study, applies Dream content analysis to Ganzfeld reported experiences in order to explore what can be learned about the ESP process in the Ganzfeld condition. The content analysis of the Ganzfeld reported experiences is an exploratory study, and its results are presented in chapter 6.

Finally, it was have seen that both Dream and Ganzfeld are well known altered states of consciousness within parapsychology, and that they appear to be conducive to psi. Thus, the question becomes: 'What can be learned about what participants report from their experiences while in these altered states of consciousness, and what can that tell us about the ESP process itself?'. The Ganzfeld procedure in this study was designed in order to investigate the ESP manifestation in Ganzfeld as well as to provide qualitative data of the Ganzfeld reported experiences to allow for content analysis. This study is different from the usual Ganzfeld studies in three aspects. First, the study was being conducted in Brazil with Brazilian participants. Second, I am comparing the Ganzfeld reported experiences to Dream reported experiences. This involves ESP and aspects of the contents of both the Ganzfeld and Dreams (for example, imagery). Third I would be applying a content analysis technique developed for Dream studies to compare the content of both Ganzfeld and Dreams. This has never been done before in parapsychology, and has never been done before with Brazilian Dream reports. The Hall and Van de Castle Dream system of content analysis is considered the most complete documented system (Domhoff, 1996), and comprises, as will be seen in chapter 6, all the Dream representative content categories that were found among thousands of Dreams. The use of such system on the Ganzfeld (N-REM) content was considered by the author, particularly to explore which Dream categories would be represented by Ganzfeld reports, taking in consideration that the Ganzfeld procedure appear to induces a Dream-like experience. Thus, despite of differences between Ganzfeld and Dream state, such as that one occur during an awaken stage and the other during a sleep stage, the idea of applying the Hall and Van de Castle system to Ganzfeld reports

was considered worthwhile in the light that this Dream content analysis system is the most complete documented system to date (Domhoff, 1996), and could be applicable to borderline reported experiences, such as, for instance, the Ganzfeld. In addition, the author consulted by email contact, Dr. William Domhoff, an expert in the use of the Hall and Van de Castle system of content analysis. The contact was made in order to assess the possibility and possible limitations of using the system in Ganzfeld (N-REM) reported experiences. Domhoff's comments were that the author could indeed use the system for N-REM reported experiences, and that he would found the majority of Hall and Van de Castle categories represented also for the Ganzfeld reported experiences.

General Method

The general method and procedure for the Ganzfeld condition is the same as the one presented previously for the Dream condition in chapter 4, as well as the sections regarding participants, instruments, general procedure, and target material.

Overview of the Ganzfeld Procedure

All the Ganzfeld experiments were conducted in the Ganzfeld laboratory 'suite', built under Dr. Kathy Dalton's guidance, at the Bio-Psychical Sciences Unit from Paraná, in Curitiba-Brazil. The Ganzfeld laboratory consisted of three small rooms (see chapter 4, Figure 1). The experimenter room, with the sound and recording equipment, is located beside the receiver room. The other room is located in the entrance of the laboratory, and serves as a meeting room, where explanations about the experiment and procedure were given, and where biscuits and tea were

offered prior to the experiment. The only entrance is situated in the meeting room, which also has a double door which separates it from the experimenter room. The receiver's room, which is sound-attenuated, is separated from the experimenter room by a double door, also with acoustic-attenuation material. Moreover, the experimenter room, and the receiver's room are windowless.

This facilities are located in the back of the parapsychology unit building, in the ground floor, and are away from traffic or other noise. The receiver's room is equipped with a couch, earphones, a microphone, a blanket, heating equipment, and two red lights placed 1.0 meter from the participants' head..

The manual Ganzfeld laboratory procedure with a clairvoyance technique is used in this study. A distinct Ganzfeld target pool was used for the Ganzfeld session. A friendly, comfortable, open, trusting and supportive rapport between participants and experimenter was established and a tour given to familiarize them with the Ganzfeld laboratory facilities, with the room in the experimental suite where the target is placed for the trials, and also to familiarize and explain to participants about the Ganzfeld method. During this period, approximately 40 minutes, all questions participants had about the procedure were answered, and biscuits, tea and refreshments were offered. The experimental suite, where the target is placed for the trial, is located 120m away from the receiver's room, on the other side of the road, in the College Campus (see chapter 4, Figure 2).

Participants were shown this experimental suite before the experimental trial, and were able to visualise the target in the room, and to choose the target envelope location within the room. The author was the experimenter for all trials of this thesis.

Next, in the participants' room, the experimenter asked the participant to be comfortable in the couch. Then, halved-anatomic-cut Table Tennis balls were carefully taped over the participants' eyes using micropore tape, and headphones were placed over their ears, adjusting the sound level of the induction/relaxation tape, and white noise, to their comfort. In addition, a red light was positioned directly in front of their face and eyes, producing an undifferentiated visual field.

Finally, after asking if the participant was ready to start and feeling well, the experimenter left and closed the receiver's room door, and an induction/relaxation tape containing instructions for the response set and for the verbalisation during the mentation process was played. The induction tape used was based on the Psychophysical Research Laboratory (P.R.L.) relaxation tape, used by Honorton and his colleagues in this laboratory. The tape was translated to Portuguese, with minor alterations in language as a result, so as to fit the cultural context and the experimental aims. The tape was recorded using a female voice, containing around 19 minutes of instructions for relaxation which are based on the Jacobson relaxation technique (see Appendix 13). At the end of the relaxation instructions, suggestions for the verbalisation during the mentation period were given. Following this, white noise was played through the headphones to provide a homogeneous, unpatterned auditory field, and to promote a relaxation state during the period in which the participant would describe his or her thoughts and images aloud for approximately 15 minutes. From the beginning of the relaxation instructions until the end of the white noise took 34 minutes. It was taken into consideration the fact that most participants, who took part in a Ganzfeld pilot study conducted by the author in Curitiba, Brazil, and which was conducted exclusively to test project experiment instruments, argued

that 30 minutes was a long time to stay laying down in a couch during the white noise period which follows the 19 minutes of the relaxation tape, having 49 minutes per session as a total. A second pilot study conducted by the author in Curitiba with the same purpose of testing project experiment instruments, utilised 19 minutes of relaxation tape followed by a 15 minutes period of white noise, having 34 minutes as a total per session. Participants attested that they found the 34 minutes per session appropriate for achieving the an altered state of consciousness. The whole Ganzfeld session lasted for about one hour and fifty minutes until its completion. Five volunteers took part in each of the pilot studies, which were conducted in Brazil, December 1998, and December 1999. The main purpose of those pilot studies was to test the Ganzfeld laboratory facilities, instruments, and equipment, assessing these variables in relation to functionality.

All the mentation, mentation review, and judging produced were tape-recorded from the experimenter room. The experimenter stayed during the trial in the experimenter room from where he was running the experiment and taking notes of participants' mentation, through headphones. A period of time immediately after the mentation period was provided so that participants could summarise in a written report their Ganzfeld mentation imagery and feelings. This detail does not appear in standard Ganzfeld procedures. The purpose of that was to generate a Ganzfeld written report, based on the participant's memory of the images and feelings experienced during the Ganzfeld, that could be comparable with the Dream written report, also based on memory of images and feelings experienced during their Dreams. Participants were instructed to provide intelligible Ganzfeld written reports of their impressions of the target for each trial, and also not to add or revise their

report when doing the mentation review or even after its completion. The written report was left beside the couch while the participant had the audio-phones placed again in order to start the mentation review, which was conducted by the experimenter from the experimenter room.

Next the mentation review, an association period, took place after the mentation period in which the experimenter, from the experimenter room, read back to the participant his mentation notes allowing them time to elaborate on the feelings, sensations, and memories they had in relation to their mentation imagery. Then, the experimenter asked the participants questions about their general imagery characteristics, as noted earlier.

The rating form of judging was explained, by the experimenter to participants after the completion of the questionnaire which comprised four questions of general imagery characteristics, three about state report, and two related to whether they enjoyed being tested in an artificial condition (Appendix 7). One cannot assume that just because an induction procedure is used, like the Ganzfeld, there is alteration of consciousness or a deep change in consciousness, as some might assume today with the Ganzfeld. Therefore, measures that provide evidence of alteration of consciousness, and degree of alteration are needed, independently from the procedures of induction, such as, for instance, the 'state report' scales used by Honorton et al (1973). As seen in chapter 3, state report scales allow researchers to measure participants alteration of consciousness, based in their own evaluation. In this study, a scale from 1 to 10, 1 being in an awake state and 10 being in a deep altered/relaxed state of consciousness was used to assess the state of consciousness participants achieved into during the Ganzfeld experiment.

The target was placed in the experimental suite by the experimenter just before the experimental trial, and the participant was allowed to see the suite and the target envelope before the trial. Participants were then instructed to consider, and scale ignoring preferences (not to chose one picture because they liked that better), the similarities and correspondences of their Ganzfeld imagery in relation to the target set items, the target itself, and the three distracters. The four pictures were shown to the participant in sequence, so he could do the ratings (0-99) where a higher number would mean more correspondences with the target. After the completion of the judging session both participant and experimenter signed the judging form, and that signed the end of the trial. The experimenter then collected the target in the experimental suite, while the participant waited in the participant's room. Target feedback was given at the participant's room, after the completion of the trial, as soon as the experimenter got back with the sealed target envelope, when the target envelope was opened in the presence of the participant, and the target identity revealed. .

Hypotheses and Planned Analyses

The hypotheses were specified prior to the beginning of the study. Hypothesis one, that there would be significant positive results among the Ganzfeld condition (2t). Hypothesis two, that there would be a significant and positive relationship between Ganzfeld ESP scoring and vividness of visual imagery scores (1t). All the other analyses were exploratory, this includes the following variables: demographic variables, psi experiences, Dream experiences, attitude towards the Ganzfeld session, imagery experiences, and others (2t).

The data was analysed using the same statistics which was presented in chapter 4 in the Hypothesis and Planned Analysis section.

Results

Psi results for this study are suggestive of psi-missing overall. By this I mean, that the Direct Miss Percentage of 32% if it had been a Direct Hit Percentage would almost have been significant as a Direct Hit Percentage of 25% is expected when there is no ESP in the data. In parapsychology there are those who believe that ESP abilities can be used to obtain information, and in some people and some situations, to avoid information. Psi-missing is sometimes thought to be an indication of this. The Direct Hit %, as represented on Table 10 is 12%, much below what would be expected by chance, and adds to the feeling that this data might indicate psi-missing overall. Table 10 shows the Ganzfeld Direct Hit Percent. The overall ESP score in Ganzfeld trials was non-significant at $SORz -1.46$, $MCE = 12.5$, $p < .21$ (2t), $r = -.21$.

Table 10
Direct Hit Frequency & Percentages in the Ganzfeld Trials

Rank	Frequency	%
1	6	12%
2	17	34%
3	11	22%
4	16	32%

Demographic variables

The female participants ($N = 36$) obtained a Ganzfeld Condition Mean ESP Score (Stanford z -scores) of $-.33$ and the male participants ($N = 14$) obtained a Mean ESP score of $.01$. The difference between the two groups (Female Mean Rank = 23.85 and Male Mean Rank = 29.75) was not significant, Mann-Whitney $U = 311.50$, $z = 1.29$, $p = .20$ (2t), $r = .18$.

Psi experiences

Table 11 shows the difference in Ganzfeld Condition Mean ESP Scores between groups of experiences and other participants who did not claim that specific experience. Overall, an a count of type of psi experiences claimed was obtained for the group of participants. It was found that participants had a range of claims from no psychic experiences (a score of "0") to having experienced all the psychic experiences listed (a score of "6"). The mean number of different types of psychic experiences claimed for the entire group of participants was 2.90 (with a standard deviation of 1.65). Overall, Ganzfeld ESP scores were not significantly related to the number of psychic experiences an individual participant claims, $\rho(50) = -.01$, $p = .93$ (2t). On Table 11, the participants have been broken down into those who claimed to have had a particular type of psychic experience (such as "Clairvoyance Yes") and those who have claimed not to have had that experience (such as "Clairvoyance No"). Mann-Whitney U tests were done on the Ganzfeld Mean ESP scores of these subsets of the participants because in other studies differences have sometimes been found. As can be seen on Table 11, however, in this study, there were no significant differences between the experiencers and those who had not

experiences something. The purpose of doing all the analysis of this chapter are parallel to those already presented in chapter four, and will not be repeated.

Table 11
Comparison of Ganzfeld Condition ESP Scores for
Experiencers and Non-Experiencers

Experiences	Yes		No		Mann- Whitney U	z	p(2t)	r
	SORz	N	SORz	N				
Clairvoyance	-.16	14	-.32	20	152.50	.43	.66	.07
Telepathy	-.25	36	-.37	5	97.00	.27	.78	.04
Precognition	-.20	27	-.03	11	151.00	.08	.93	.01
Psychokinesis	-.32	14	-.50	18	142.00	.61	.54	.11
Visions	-.43	19	-.12	16	127.50	.81	.42	.14
OBE	-.20	35	-.45	11	221.50	.75	.45	.11

Dream Experiences

Table 12 shows the correlations between Ganzfeld condition ESP scores and Dream experiences. As the table shows, none of the analyses was significant. Forty four participants that answered ‘yes’ to the question regarding if they have ever had a lucid Dream, had a Ganzfeld mean ESP score of .35 (mean rank = 23.59), compared to the six participants that did not experience lucid Dreams (Ganzfeld mean ESP score = .61, mean rank = 39.50). The difference was significant, Mann-Whitney U = 48.00, $z = 2.51$, $p = .01$ (2t), $r = .35$.

Table 12
Relationship of Ganzfeld Condition ESP Scoring to Dream Experiences

Dream Experiences	N	rho	p (2t)
Dream recall	50	-.11	.45
Dream different from ordinary experiences	50	-.05	.71
Dream without recall of content	50	.13	.38
Lucid dream frequency	44	-.09	.53

Attitude towards the Ganzfeld session

The analysis of attitudes towards the Ganzfeld session were not performed because one of the attitudes had a very low number of respondents, ($N = 4$).

Imagery experiences

As presented earlier, six participants obtained a hit in the Ganzfeld condition, and sixteen obtained a miss. The VVIQ scores ranged from 16 to 76 with a mean of 37.34 ($SD = 14.80$), where a low VVIQ score is related to high vivid visual imagery. Six participants obtained a VVIQ score mean of 43.50 (mean rank = 14.58) and sixteen participants obtained a mean of 33.75 (mean rank = 10.34), Mann-Whitney $U = 66.50$, $z = 1.36$, $p = .17$ (2t), $r = .29$. The correlation between the Ganzfeld ESP scores and the VVIQ scores was not significant, $\rho(50) = .13$, $= .18$ (1t).

Table 13 shows the correlations between the Ganzfeld ESP scores and other imagery experiences measured by the PIF. The only significant analyses were those concerned with clarity of images and clarity of hearing, both of which correlated negatively with the Ganzfeld ESP scores

Table 13
Relationship of Ganzfeld Condition ESP Scoring to Imagery Experiences
($N = 50$)

Imagery Experience	ρ	p (2t)
Daydream	-.09	.52
Ease to create mental image	-.15	.31
Clarity of image	-.34	.02
Clarity of hearing	-.32	.02

Regarding the relationship between the Ganzfeld ESP scores and the scores of the Gordon Visual Imagery Test, the results are that 44 per cent of the participants were classified as controlled and 56 per cent were classified as having autonomous imagery. The controlled group had a Ganzfeld mean ESP score of 22.02 while the autonomous group had a mean ESP of 28.23. The difference was not significant, Mann-Whitney $U = 231.50$, $z = 1.49$, $p = .13$ (2t). $r = .21$.

Alteration of Consciousness

As seen on Table 14, Ganzfeld ESP scores did not correlate significantly with different experiences of alteration of consciousness. This included alteration of consciousness in the Ganzfeld and alteration of consciousness in real life contexts.

The Ganzfeld ESP scores were not significantly correlated with the participants' ratings of alteration of consciousness during the Ganzfeld session, $\rho(50) = .14$, $p = .32$ (2t).

Table 14
Relationship of Ganzfeld Condition ESP Scoring to Alteration of Consciousness
(N = 50)

Alteration of Consciousness	<i>rho</i>	<i>p</i> (2t)
Alteration in the Ganzfeld during the experiment	.14	.32
Loss of awareness of surroundings when involved in an activity	.06	.68
Loss of sense of time when involved in an activity	.16	.28

Other Variables

Table 15 shows the correlation analyses between Ganzfeld ESP scores and several other variables. None of them achieved statistical significance.

Table 15
Relationship of Ganzfeld Condition ESP Scoring to Miscellaneous Psychological Variables

Variables	N	<i>rho</i>	<i>p</i> (2t)
Enjoy fantasy	50	-.06	.70
Reserved/Outgoing	50	.03	.84
Felt at different level while exercising	48	.05	.75
Belief in existence of ESP	50	.21	.15

In another analyses, the Ganzfeld ESP scores were analysed in relation to those participants that said they were raised in an environment with a tradition of paranormal ability (N = 21) and in relation to those without such environment (N= 29). The difference was not significant, Mann-Whitney U = 244.00, $z = 1.19$, $p = .23$ (2t), $r = .17$.

The Ganzfeld ESP scores were analysed also in relation to participants beliefs of demonstrating psi ability in an controlled laboratory experiment. The Ganzfeld ESP scores were significantly correlated with participants beliefs of demonstrating psi ability in controlled laboratory experiment, rho (50) = .31, $p = .03$ (2t).

Ganzfeld General Imagery Characteristics

Participants were asked about their Ganzfeld general imagery characteristics. As shown in Table 16, (34%) of the participants claimed to have had a theme throughout the imagery or persistent imagery. Table 17 shows the participants' percentage of Ganzfeld imagery classification during the Ganzfeld session, with the majority of them (76%) claiming to have had vivid imagery more than the others.

This data is illustrative of the kind of imagery participants claimed to have had in their Ganzfeld experience.

Table 16
Prevalence of Specific Imagery Types Reported in the Ganzfeld Session
(N = 50)

General Imagery Characteristics	N	%
Surprising imagery	16	32%
Lots of imagery	9	18%
A theme throughout the imagery or persistent imagery	17	34%

Table 17
Quality of Imagery Reported in the Ganzfeld Sessions
(N = 50)

General Imagery	N	%
Vivid	38	76%
Clear	2	4%
Sharp	3	6%
Unusual	1	2%
Stand out more than any other	0	-
None of them	5	10%

Summary and Conclusions

This experiment results are just chance overall. It is important to say though, that the sample used in this study was selected on the basis of their Dream recall ability comprised mostly of parapsychology students who had an interest in the field. These facts suggest they are not representative of the general population, and that was not intended.

The hypothesis one, concerning significant results among the Ganzfeld condition was not confirmed, as for the 50 trials a total of 6 hits were obtained, which attests a hit rate of 12% where 25% is expected by chance.

The hypothesis two, that there would be a significant and positive relationship between ESP scoring and vividness of visual imagery scores was not confirmed, as the correlation between the ESP scores and the VVIQ scores was not significant, $\rho = .13$.

All the other analyses were exploratory and none significant, with the exception of participants beliefs of demonstrating psi ability in controlled laboratory experiment which correlated positively with ESP scores, and clarity of images and clarity of hearing which correlated negatively with ESP scores, so the higher the ESP scores the lower the clarity of imagery and hearing. However, given the number of analyses done one could not claim that these were independently significant because sooner or later some would be significant by chance. It was found interesting that the participants' Ganzfeld general imagery characteristics showed that 34 per cent of the imagery was related to a theme throughout the imagery or persistent imagery, while the general imagery classification showed a greater percentage of vivid imagery (76%). The final chapter of this thesis, chapter 8, will provide a discussion of the Ganzfeld experiment results in this thesis and what conclusions can be learned from these findings.

CHAPTER 6

THE CONTENT ANALYSIS OF DREAM AND GANZFELD EXPERIENCES

The role of this chapter is to review published ESP dream content analysis studies. The earliest publication of dreams' content analysis related to ESP dream research, appeared 32 years ago (White, Krippner & Ullman, 1968). However, there has been very little publication since then. This chapter presents an introduction of dream content analysis in general and in parapsychology, focusing on dream content analysis studies which aggregate relevant factors to the use of the technique in this thesis.

Introduction

In the more recent tradition of focusing on the nature of experiences reports, techniques such as the discourse analysis, conversation analysis, and content analysis have been increasingly used in the Social Sciences. Considering the aim of this study, that is to find content patterns of 'what' people report within their dream and ganzfeld experiences, it was decided to use the well known and standardised Hall and Van de Castle system of content analysis as a tool to find which categories are represented in the dream and ganzfeld content's reports. The investigation involving the use of the Hall and Van de Castle system for the ganzfeld data is exploratory, and aims to find which of the Hall and Van de Castle categories are represented in the ganzfeld experience which induces a dream-like state.

Content analysis, in a general sense, "is the search for meaningful regularities and patterns in written documents" (Domhoff, 1996, p. 7). Content

analysis has been considered by social scientists as the effort to convert verbal and written materials into numbers, seeking for statistic analysis, formulating classes and tabulating frequencies. That is possible by formulating categories, tabulating frequencies for the categories, and determining percentages and proportions which then are compared with norms and control groups. Content analysis can be done qualitatively or quantitatively. In fact, as pointed out by Domhoff (1996), there is not a hard or fast line between the qualitative and the quantitative, they might shade into the other. A set of categories (e.g., characters, objects, settings, etc.) is usually used to begin with and develop an idea of the frequency of elements that fits in those categories. Then, the next step is the creation of more explicit and carefully defined categories searching in the document for exact frequencies. Therefore, quantitative content analysis usually develops out of qualitative analysis as an attempt to make possible greater agreement among investigators who study the same kind of document, such as, newspapers, folktales, or dream reports.

Nonetheless, there is no content coding system which works for all kinds of verbal or written materials, and there is restricted use of content categories developed for studies of other written material in the study of, for example, dream reports. Therefore, a specific content coding has to be applied for dream reports, and the Hall and Van de Castle system of dream content analysis has been chosen to be used, as such, in this thesis. The dream content analysis, including the use of dream content analysis in parapsychology, is introduced to the reader next.

Dream Content Analysis

Dreams contain a variety of different elements in it's content, and some of these content elements appear more frequently than others, considering a great amount of dream reports. This leads to the finding of some patterns on the dream reports data, which than provide enough information to the creation of dream categories, which, as a result, allows to a content analysis approach. For example, it has been found in the literature that "the most common dream category of activity involved movements, such as walking, running or other change in bodily position", and that the next most common involved "talking, followed by sitting and watching" (Van de Castle, 1994, p. 298). In addition "the most frequent type of dream imagery is visual, the second one is auditory, the third is tactical, the fourth is olfactory, and the fifth, gustatory" (p. 293). Moreover the most common animal imagery in dreams for adults are dogs, horses, cats, birds, snakes, fish, insects, and so forth.

As pointed out by Hall and Van de Castle (1966), there are two methodological points that must be considered regarding content analysis. The formulation of classes of the Hall and Van de Castle system were developed once they were familiar with a system of classification, and the selection of a unit of analysis. First, to formulate a system of classification it is necessary to comprise the relevant aspects, of a specific kind of report, in a reliable way formulating a set of categories. The formulation of classes of the Hall/Van de Castle system were guided following some considerations. They did not started formulating any classes within the broad headings until they were familiar with dreams as a result of having read and studied a large number of dream reports. They didn't omit any class of items which was represented fairly frequently in the dreams. And a high degree of inter-score-

agreement was applied in order to avoid the variance in scores to be determined more by the person who scores than by the conditions under investigation. However, creating reliable categories is a very complex task, which can be achieved just by meticulous trial and error, with examples provided to allow researchers to use the system. Second, to select the units of analysis the purpose of the study must be considered. Various different units of analysis can be used in content analysis, as for instance, single words, phrases, sentences, lines, pages or even the whole productions in some cases. In the content analysis of dreams, the dream report itself can be used as a unit of analysis as well as each statement, a group or each word contained in the dream report, and so on. Nevertheless, content analysis studies must make sure the units of analysis are carefully established, specified, and presented in order to allow for replication.

The Hall/Van de Castle coding system was build step-by-step based on the empirical study of thousands of students dream reports, and, with its predetermined categories and subcategories, is usually utilised to detect common and recurring elements in dream reports (Hall & Van de Castle, 1966). Their coding system has been considered as the most intelligible and detailed system for the study of dream content developed to date (Domhoff, 1996). This system of dream content analysis is presented in detail in Appendix 14.

The Hall/Van de Castle system correspond of 10 general categories; most of these categories are divided into subcategories. The general categories are: characters; social interactions; activities; striving: (success and failure); misfortunes and good fortunes; emotions; and physical surroundings: (settings and objects). The remaining categories, modifiers, negatives, temporal references, and food and eating,

have not been used frequently as the general categories. According to Domhoff (1996), the frequencies of these categories are not large in most instances, and no major gender differences were found, although women tend to use more negatives in their reports than men. Domhoff (1996, p. 63) point out that “these findings await further exploration and creative development”. These categories were not included in this study. The use of dream content analysis in parapsychology is presented in next section.

Dream Content Analysis in Psi Research

The idea of adapting dreams content analysis to psi research was developed by the Maimonides Dream Telepathy team who performed such analysis on dream transcripts generated in their telepathy studies (White, Krippner, & Ullman, 1968). A content analysis was applied on dreams transcripts of the experimental series II of the Maimonides Dream Laboratory seeking to further understanding on the telepathic effect observed in the dreams of sleeping participants. The study had two judges who worked independently with the same dream transcripts. Each dream report was broken into units of meaning by one of the judges, usually composed by more than one word, following the method reported by Malamud, Krippner, White, and Zigo, 1967, (cited in White, Krippner, Ullman, 1968). This units of meaning were separated from each other by a diagonal slash marks (/), and were numbered starting with 1 and continuing with 2, 3, and so forth. The rules used in their study to determine the units of meaning in dream protocol were based on the Malamud et al 1967 rules (White et al, 1968, pp.432-435).

The dream transcripts were scored using 17 predictive content categories. The judge scored each unit of meaning, using the predictive content categories, following the criteria reported by White, Krippner, Zigo, and Leff, 1968 (cited in White, Krippner, Ullman & Honorton, 1968).

The transcripts were also checked by a second judge. The units of meaning were judged independently (units of meaning were compared with the target picture and given a score) and were judged in context (units of meaning were compared with the target picture based on the surrounding material), and were judged within this two, as telepathy present (when indicating some degree of correspondence to the target picture) versus telepathy absent (when indicating little or no correspondence to the target picture). Two predictive categories, sex and violence, were excluded for failing in providing enough data for statistical analysis. Using Chi-Square tables to find which predictive content categories could be significantly associated with target correspondences, White and colleagues found eight out of fifteen categories to be associated with target correspondences to a significant degree. It is pointed out that Association material ($p < .01$), Hypnagogic and Hypnopompic imagery ($p < .02$) appeared to have significantly telepathy target content correspondences. They found Colour ($p < .02$) as highly associated with strong target correspondences, and that Communication ($p < .05$) was associated with telepathy as well as Witness ($p < .01$), Elaboration ($p < .01$), and Waking Imagery ($p < .01$). Less target-content correspondences was found in Waking Imagery than elicited in other conscious states.

Participants' dream transcripts were investigated showing that many of them were unpleasant, having a low level of target correspondences. The content analysis conducted in this study suggests that telepathic effects appear to be more associated with pleasant dreams than with unpleasant dreams as well as with the eight predicted categories presented earlier. The use of a technique such as the content analysis could reveal that some categories are apparently more associated with telepathy than others, and that seems to indicate the richness of content analysis as a tool for enhancing our knowledge of psi process.

Another study was conducted by Krippner and Faith (2000) in order to identify reported psi-related dreams, focused on the following types of transpersonal and psi-related dreams: Telepathic dreams, shared (mutual) dreams, clairvoyant dreams, precognitive dreams, past-life dreams, and, visitation dreams,

A total of 1,666 dream reports were collected, 910 from women and 756 from men (age range from 20 to 70), from participants of dream seminars given by Stanley Krippner between 1990 and 1998, in several countries: Argentina, Brazil, Russia, Japan, Ukraine, and United States. Of the total pool of 1,666 dreams, 54 dreams were psi-related, divided in 17 scored as precognitive, 2 scored as telepathic, 2 scored as shared dreams, 5 scored as clairvoyant, 6 scored as past life and 22 scored as visitations. Japanese dream reports had the highest percentage of psi-related dreams, 5.9 per cent of the total number reported by Japanese participants of the dream seminars, followed by Russian dreams with 5.3 per cent, Argentinean dreams with 3.3 per cent, Brazilian dreams with 3.3 per cent, Ukrainian dreams with 2.9 per cent, and dreams from United States with 1.9 per cent psi-related. Brazil had 2 female telepathic dreams reported, 2 female past-life dreams reported, 2 female

visitation dreams reported, and 2 male visitation dreams reported. However, they had no clairvoyant, shared, and precognitive dreams reported by either males or females. Therefore, female dreamers reported more psi-related dreams than male dreamers, and Japanese dreamers reported more psi-related dreams than the other nationalities. An important issue in content analysis, that is, gender differences in relation to dream content analysis' category frequencies and report's length, is presented next.

Gender and dream content

The most systematic empirical findings on gender and dream content were presented by Hall and Van de Castle (1966) normative study. The study involved 500 dreams from 100 women, and 500 dreams from 100 men, all collected at Case Western Reserve University and Baldwin-Wallace-College in Cleveland, Ohio, in late 1940s. The Hall and Van de Castle norms (Hall and Van de Castle, 1966) are presented in Table 18.

Table 18
Normative Expectations on All Major Indicators for Main Content Categories
in the Hall/Van de Castle System

	Men	Women
<i>Characters</i>		
Male/Female per cent	67%	48%
Familiarity per cent	45%	58%
Friends per cent	31%	37%
Family per cent	12%	19%
Dead & Imaginary per cent	00%	01%
Animal per cent	06%	04%
<i>Social Interactions</i>		
Aggression/Friendliness per cent	59%	51%
Befriender per cent	50%	47%
Aggressor per cent	40%	33%
Physical aggression per cent	50%	34%
<i>Settings</i>		
Indoor setting per cent	48%	61%
Familiar setting per cent	62%	79%
<i>Other Content Categories</i>		
Self-Negatively per cent	65%	66%
Bodily misfortunes per cent	29%	35%
Negative emotions per cent	80%	80%
Dreamer-Involved success per cent	51%	42%
Torso/Anatomy per cent	31%	20%
<i>Dream Reports with at Least One:</i>		
Aggression	47%	44%
Friendliness	38%	42%
Sexuality	12%	04%
Misfortune	36%	33%
Good fortune	06%	06%
Success	15%	08%
Failure	15%	10%
Striving	27%	15%

Note: This table was taken from Domhoff (1996, p.322, Appendix D).

The Hall/Van de Castle norms for the character categories were replicated in the 1960s by Reichers, Kramer, and Trinder (1970). Hall (1984) suggested that “sex differences occurs in groups on every continent; in a diversity of cultures, from

the more advanced to the more primitive” and “in all age groups; in dreams collected in the laboratory; in the classroom; and in the field by many different investigators over a period of 30 years” (p. 1115).

Women usually present longer dream reports than those of men (i.g., Domhoff, 1996; Hall & Van de Castle, 1966). The problem of that is that longer dream reports usually have more of everything on them, requesting correction to the dream length. The Hall/Van de Castle system, which uses nominal categories, use percentages to correct for the length problem. The percentage indicators show which parts of an overall category are contained in specific subcategories, for instance, the number of characters in a series or set of dreams that are friends is divided by the total number of humans to provide the ‘friends per cent’ (Domhoff, 1999).

Another study was conducted by Krippner and Faith (2001) regarding national and gender differences in reports of exotic dreams. The purpose of the study was to explore the incidence of a selected number of exotic dreams in a large sample of dream reports. An exotic dream, as defined by Krippner and colleagues, refers to dreams which are so sporadically reported that they correspond to ‘exotic’ specimens of plants, animals or gemstones. Krippner and colleagues considered as exotic dreams: Creative dreams, lucid dreams, healing dreams, dreams within dreams, out-of-body dreams, telepathic dreams, mutual (shared) dreams, clairvoyant dreams, precognitive dreams, past-life dreams, initiation dreams, and, visitation dreams.

A total of 1,666 dream reports were collected, 910 from women and 756 from men (age range from 20 to 70), from participants of dream seminars given by Stanley Krippner between 1990 and 1998 in several countries as presented previously. Out of the total of 1,666 dreams, 135 (8,1%) were exotic dreams. From

that, 76 exotic dreams were reported by female dreamers, and 59 exotic dreams were reported by male dreamers. There were 4.5 creative dreams, 28.5 lucid dreams, 3 healing dreams, 9.5 dreams within dreams, 24 out-of-body dreams, 2 telepathic dreams, 2 mutual dreams, 5 clairvoyant dreams, 17 precognitive dreams, 5.5 past-life dreams, 15 initiation dreams, and 19 visitation dreams.

They found that the country with the highest percentage of exotic dreams was Russia with 12.7 per cent, followed by Brazil with 10.9 per cent, Argentina with 8.6 per cent, Japan with 8.1 per cent, Ukraine with 5.9 per cent, and States with 5.7 per cent (Krippner, & Faith, 2001). And that female dreamers reported more exotic dreams than male dreamers. The value of home or laboratory reported dreams question is presented next, regarding the validity of using home dream reports in a systematic study of dream content.

Home versus laboratory dreams

It is found in the literature that home dreams differ, in general, from laboratory dreams regarding aspects as sexuality and aggressive interactions in which the dreamer is involved, having more of that in dreams reported at home (e.g., Domhoff & Kamiya, 1964; Weisz & Foulkes, 1970). Moreover, it is found that home dreams have more hostile/violent elements and are qualitatively better than laboratory dream reports (e.g., Domhoff, 1969). That home dreams have a greater amount of aggression, friendliness, sex, success, failure, misfortune, and good fortune than laboratory dreams reports (e.g., Hall, 1967). And that home dreams have more animal characters, more elements of the dreamer as befriender, more sexual interactions, and more emotional content and descriptive elements (Bose, 1982).

A reanalysis of the original coding of dream reports collected at home and in sleep laboratory from the same participants studied by Hall and Van de Castle was carried out by Domhoff and Schneider (1999) using Cohen's h statistics for effect sizes. The effect size h is the effect size represented by Cohen's h which measures the magnitude of an experimental effect (the size of the relation between X and Y). They found out that even when statistically significant, the majority of the differences between the dream written down and laboratory collected dreams are small to medium in magnitude. However, they found a fairly consistent difference, regarding effect sizes larger than .30, between the home written down dreams and laboratory collected dreams in relation to one or another indicator of aggression, especially the physical aggression per cent.

Domhoff and Schneider (1999) pointed out that despite the differences between home and laboratory dream reports regarded to aggression indicators, there is no evidence that home dreams are better than laboratory dreams for content studies using the Hall and Van de Castle system. Moreover that there is no reason to believe that home dreams are as different from laboratory dreams that they cannot be utilised in a systematic study of dream content. Therefore, they argue that both types of dream reports are useful for research purposes, and that home dream reports might be richer qualitatively.

The following studies are presented to illustrate about the possible ways researchers found to search for further understanding of how participants respond to ganzfeld experiences and how psi express itself in this kind of research.

An examination of subject and agent mentation on the ganzfeld

A ganzfeld study in which an examination of the participant's mentation for components that may help discriminate potentially target-related responses from other mentation items was conducted by Delanoy (1988-89). The study also tried to figure out which factors in the mentation could help judges in identifying target/response correspondences while in the judging period. The purpose of that was to assist judges in their task once usually participants responses, while describing their imagery, are distorted or in some way altered information of the target. The idea was that if it is possible to detect certain characteristics more with target-related responses than with responses with no correspondence to the target, then could be possible to instruct judges to pay more attention to responses that fit that characteristics.

Twenty participants took part in this study, with the experimenter serving as the sender for all of them. Blind judging was used in addition to the subjects' rankings, and a sum of ranks analysis performed on the data. Fifteen different types of mentation, distributed within five general groups, were analysed in this study in order to investigate which response type would be related to psi-hitting. The groups were: Type of imagery, duration, clarity, content, and miscellaneous. Participants were instructed to categorise each mentation item in relation to the presence or absence of the categories above.

A sum of ranks (Solfvin et al 1978), based on the subjects' target rankings, was the primary overall psi measure used. The results from participants overall ESP scoring did not differ from chance expectancy as measured by sum of ranks (MCE sum of ranks = 100, obtained sum of ranks = 102, $z = -.21$, corrected for continuity).

The results from blind judges data was also non-significant (MCE sum of ranks = 92.5, obtained sum of ranks = 81, $z = 1.62$, $p < .06$, 1t). The examination of the results to determine whether weak or strong correspondences best identified the target were analysed by means of sum of ranks, the ranking of the pictures being determined by the rating points assigned by the participant to each picture item of mentation. Neither weak (MCE sum of ranks = 100, weak correspondences sum of ranks = 105, $z = -.64$) nor strong (MCE sum of ranks = 100, strong correspondences sum of ranks = 98, $z = .21$) correspondences conveyed a significant degree of target-related information, and the difference between the two was non-significant ($z = -.30$). Fifteen different types of mentation were examined where the proportion of all points allocated to the target on the basis of each imagery category were compared to the proportion allocated to the target on the basis of remaining imagery for each trial, using the Wilcoxon matched-pairs signed-ranks test (Siegel, 1965). Regarding the fifteen categories analysed, only one showed to convey significantly greater proportion of target related information than the others ($N = 32$, $T = 158.5$, $z = 1.973$, $p < .05$). This was the category of undeveloped imagery, or vague imagery. One could speculate that undeveloped or vague imagery would be not easy to identify as target-related imagery by independent judges, but probably would be easier for the participants themselves.

Another interesting study was conducted by Carpenter (1995), and based on the content of reported material in the ganzfeld. The study explored adjustment of the ganzfeld situation assessing several aspects of the quality of imagery reported in the ganzfeld as well as indications of discomfort and anxiety, suggestions of defences

against anxiety, and suggestions of altered or unusual kinds of experiences. The study tried to develop variables which could discriminate aspects of participants emotional and cognitive adjustments to the ganzfeld condition in order to test their relevance in relation to how psi-determined information may be expressed there, and detected by different rates. For that purpose, transcripts of 50 ganzfeld sessions with relative strong hit and misses were analysed, without Carpenter's knowledge of the ESP scores. Carpenter explored the idea of which would be the central task of the ganzfeld (to allow complex and autonomous imagery to develop and describe it) designing a rating scale in order to assess participants performance on that.

Carpenter applied three units of analysis in this study. The Idea Units, referring to units identified as blocks of speech concentrated upon one idea or image where transcripts were broken into Idea Units before the scoring. The Number of Words, referring to the total number of words in the transcript. And the Idea Units length, regarding the average word-length of the Idea Units in the protocol. Carpenter broke down all the ganzfeld transcriptions into Idea Units having all variables scored.

The rating scale designed by Carpenter regarding Quality of Imagery, was composed of 8 items to be scored for each Idea Unit using 1 or 0. The items were: Integration, fluid development, autonomy, fabulation, human movement, animal movement, inanimate movement, and, colour.

The rating scale designed by Carpenter to indicate anxiety or defences against anxiety is comprised of 8 items: Anxiety/Morbidly, hostility, penetration, barrier, denial, regression, intellectualisation/distancing, and, repression/verbosity.

For representing the Expressed Bodily Experience, three variables were applied by Carpenter: Fearful or distressing experiences, positive or neutral experiences, and, distortions of normal bodily experience.

Carpenter predicted that highly scores of Anxiety/Morbidity, Hostility, Penetration, Barrier, Intellectualisation/Distancing, Denial, and Repression/Verbosity would be related to lower scores in the ganzfeld. He also predicted that Integration, Fluid Development, Autonomy, Human Movement, Form /Colour, and Animal Movement would be related to positive performance in the ganzfeld. Moreover, Distortion of Bodily Experience and Positive/Neutral Experiences were predicted as to present good performance in the ganzfeld. The ganzfeld material contained data based on both participants ratings and judges ratings for the analysis.

Considering the correlation between ESP ranks scores and transcript variables using Pearson Product-Moment Correlations, no significant results were obtained for the variables expected to psi-hit.. For the variables predicted to psi-miss, using participant ranks, 4 out of 8 variables were significant in the predicted direction: Anxiety/Mobility (participants ranks $r = .26$, $p < .10$), Penetration (participants ranks $r = .29$), Repression/Verbosity (participants ranks $r = .46$, $p < .01$), and Barrier (participants ranks $r = .32$, $p < .05$). And 2 out of 8 variables obtained significant results using judge ratings: Anxiety/Mobility ($r = .27$, $p < .10$), and Barrier ($r = .23$, $p < .05$). For the variables without prediction a general psi-missing trend was shown for the judging data, with one significant correlation: Colour/Form ($r = .35$, $p < .05$).

It is suggested by the authors that participants with imagery that was more autonomous having had reported also more benign and unusual physical experiences rated the target more successfully than the others. Regarding the judges ratings, the Colour Factor showed the strongest relation with psi-missing. Finally, Carpenter argues that these variables represent a way of achievement further understanding of how participants respond to ganzfeld experiences as well as how psi might express itself in this kind of research.

It has been shown that the use of content analysis for both dream and ganzfeld reported experiences appear to be a way of understanding more about psi process, and it is felt that further knowledge on that might be achieved through the use of such procedure.

Discussion and Conclusion

It seems relevant that parapsychology findings are expanded in studies of different cultures, particularly in countries with a different native language. Each language has its own particular way of expressing ideas, and thus may shape what people report about their paranormal experiences. Various social interactions are based on dealing with events that are experienced only in terms of specific linguistic versions of that. For instance, as already seen, dreams which are considered as an experience during sleep, as what is remembered when the dreamer awakes, and as what is narrated to others starting with 'I had a dream' or 'I dreamt that', and so on. Therefore, people experiences' reports provide a large amount of qualitative data that can be analysed using techniques such as, content analysis, for example. As somebody who eventually intends to be a practising counsellor I have to listen to

people reports of their experiences, possibly paranormal or possibly not paranormal, so I must know as much as possible about what people tell about these experiences. As such, the content analysis of dream and ganzfeld reported experiences in this study may allow further learning of what people tell of their dream and ganzfeld experiences in the Brazilian culture.

As previously seen, dream content analysis allows the identification of various categories within the dream content. However, still very little ESP dream content analysis research has been done in parapsychology to date. Nevertheless, some studies were conducted showing that it is worthwhile to use content analysis of ESP dreams to understand further, for instance, the telepathic effect in the dreams of sleeping participants (White, Krippner, and Ullman, 1968). The White and colleagues study suggest that telepathic effects appear to be more associated with pleasant dreams than with unpleasant dreams and with eight predicted categories: waking imagery, hypnagogic and hypnopompic imagery, associations, colour, communication, witness, specificity, and elaboration.

As presented earlier, content analysis might also be used to detect, for instance, reported psi-related dreams (Krippner and Faith, 2000). This study illustrated that content analysis might help researchers to select from hundreds of reports, those of interest for specific purposes.

Regarding gender differences, there are major individual differences in report length between men and women dream reports. As such, women usually present longer dream reports than men do, and having longer dream reports they might have more of everything on them, requesting correction to the dream length,

and as previously seen, the Hall and Van de Castle system uses nominal categories and percentages to correct for the length problem.

The aim of this study is to learn whether or not content analysis reveals anything new about the kind of information that works its way into awareness, and the imagery that might be or might not be a carrier of paranormal information whenever people turn their attention to things their ordinarily do not look at. These patterns might be identified through content categories, such as those used by the Hall and Van de Castle (Hall & Van de Castle, 1966) system of dream content analysis which is a standardised procedure used by many researchers to date (e.g., Krippner & Weinhold, 2001). Our purpose is that such investigation would show which content analysis categories appear more frequently in the dream and ganzfeld reported experiences, which ones establish a pattern or are regularly applied to report dream and ganzfeld participant experiences, and which are related to successful trials outcome. As presented previously, our question here is “What do people report about their dream and ganzfeld experiences measured in relation to content analysis categories, and what can that tell us about the ESP process itself, and how these categories relate to actual success and failure?”. This study’s purpose is to start answering these questions through the systematic examination of the dream and ganzfeld reported experiences using content analysis, more specifically the Hall and Van de Castle dream system of content analysis. The results of the content analysis of the dream and the ganzfeld reported experiences’ are presented in the next chapter, chapter 7.

CHAPTER 7

THE GANZFELD AND DREAM REPORTS' CONTENT ANALYSIS

This thesis reports the content analysis of two reported experiences in dream and ganzfeld experiments. This chapter presents an exploratory study of the content analysis of the dream reported experiences and the ganzfeld reported experiences plus a comparison of the two, using the Hall and Van de Castle system of content analysis. One goal is to investigate what can be learned about the psi process in these conditions.

Introduction

Comparative experimental studies of dream and ganzfeld states in relation to ESP success have been conducted in parapsychology before (e.g., Kanthamani & Broughton, 1992), but the reported experiences themselves were not taken into account.

The data collected, and content analysed in our study, were obtained in Brazil, a Portuguese speaking country which has a very diverse and rich culture. Each language has its own particular ways of expressing ideas, and thus may shape the ways in which people describe their paranormal experiences (Edge, Delanoy, Krippner, & Taylor, 1997, p.141). As pointed out by Nunan (1993), "researchers have shown that conversational dynamics and the performance of speech acts differ from language to language, and from culture to culture" (pg. 84). The Brazilian culture involves a very different level of cultural beliefs and practices pertaining to the paranormal. As such, Brazilians, in general, are either directly or indirectly influenced

by the very special characteristics of religion in the country, that is, by Afro-Brazilian religions such as "Umbanda" and "Candomblé" and by a highly organized form of spiritism known as "Kardecism" (Hess, 1991). Umbanda and Candomblé are religions that are syncretizations of African religions and indigenous rituals with Christianity. These new religions, although practised by many Brazilians of African and indigenous descent, have become so ingrained in the culture that many persons of European and Asian descent also practice them, or are affected by the belief systems and symbols of these syncretic religions (Hess, 1987). Within that, research conducted by Zangari and Machado (1996) in São Paulo, Brazil, showed, for instance, that 89.5 per cent of their participants reported having had at least one seemingly paranormal experience in their lives. Some of the explanation for these elevated levels of psi experience and belief may come from the fact that some special groups as the Umbanda, Candomblé and Kardecian religions have the seance as a very commonly-occurring and commonly-experienced ritual. Persons who practice these religions learn to work with altered states of consciousness, such as trance states, which appear to be psi-conducive (Tart, 1969). Although 90% of Brazilians report that they are Catholics, most are also "something else", believing in the power of spirits and mediums (Zangari & Machado, 1996). Many of nominal Catholics participate actively in spiritist, Candomblé and Umbanda seances (Hess, 1987; Hess, 1992), even though such practices are not acceptable to the Catholic Church. It seems that paying close attention to Portuguese native speakers' reported experiences might be a way to deepen our knowledge of psi-process in that context.

As such, it might be the case that patterns may be identified through content categories, such as those used by the Hall and Van de Castle (1966) system. Such

investigation would show which categories are represented by the dream and ganzfeld reported experiences, and which are related to successful trials outcome. Additionally, one can investigate which content categories would be referenced more by male or female participants. The statistical procedure used to assess these differences are fully explained in Appendix 16.

The author's decision to apply the Hall and Van de Castle system of content analysis to ganzfeld N-REM reported experiences took into consideration that it is found in the literature (Domhoff, 1996) that much of people's dream life appear to involve straightforward narratives about their lives. When it does not, Hall's (1953) cognitive theory suggests that dream symbolism may be a form of metaphoric thinking during sleep, as presented in chapter 2. For instance, Gibbs (1995) suggests that metaphoric and other forms of figurative thinking seem to be more extensive in waking thought than is generally recognized. The ganzfeld literature shows that ganzfeld stimulation produces a marked increase in visual imagery, and also that several participants would report that they had experienced quite unusual visual imagery like "having a dream while awake" while in the ganzfeld condition (Bexton et al, 1958, *p.* 325). In the light of Adler's (1958) theory of sleeping and waking thought, which states that sleeping and waking thought are continuous forms of thought, the ganzfeld induced dream-like state could be considered as a form of thought which is similar to the dream form of thought. Thus, it seems that applying the Hall and Van de Castle system to these conditions might reveal patterns between them.

Method

Participants and procedure

The participants' information is the same as previously presented in chapter 4 in the general method section. All participants were instructed to provide a ganzfeld written report, and a dream written report from their experiments, which were used as data for the content analysis comparison between these conditions. The ganzfeld written report was produced after the ganzfeld mentation, and the dream report was produced after awakening from sleep, and both were based on the memory of participants' ganzfeld and dream experiences. The ganzfeld written reports, and dream written reports data were entered in a computer program (Microsoft Word), and were double checked by a third person.

Regarding the ganzfeld condition, the ganzfeld mentation outcome, that was tape-recorded during the experiment, was transcribed by the author, in order to allow content analysis, and was then double checked by an assistant. The author did the transcriptions blind to results.

Instrument

The Hall and Van de Castle system of dream content analysis was used in this study, and it is considered to be the most complete documented system of content analysis (Domhoff, 1996).

The Hall and Van de Castle system of content analysis' categories represent the content of dreams, and were used for ganzfeld reported experiences, as an exploratory study, because it was considered that these categories would also represent the ganzfeld (dream-like induced state) reported experiences. It was also

considered that the Hall and Van de Castle coding has a high intercoder reliability, and that it would be possible to compare the ganzfeld content analysis data to the dream data, and that other researchers would be able compare this study's results to their studies results while using the same system of content analysis.

Coding procedure

The ganzfeld mentation, the ganzfeld written report, and the collected dream reports were coded using the following categories of the Hall/Van de Castle system: characters; social interactions; activities; striving: (success and failure); misfortunes and good fortunes; emotions; and, physical surroundings: (settings and objects). Each of these categories are divided into subcategories. The remaining categories: Modifiers, negatives, temporal references, and food and eating have not been used frequently as the general categories, and these categories are not included in our study. The Hall/Van de Castle system categories, with their respective subcategories, are fully presented, including categories coding, and coding examples, in Appendix 14.

The coding comprises the discovery and naming of categories and, as pointed out by Strauss (1987), the excellence of the research depends in large part on the excellence of the coding. The coding of the present study reports was done by the author first, and then by an assistant following Hall/Van de Castle system. The outcome of the author and the third person coding was compared and any eventual divergence was discussed to achieve a consensus result.

After categories and subcategories were coded in a dream, or ganzfeld reports in this study, they were entered in the DreamSAT program spreadsheet

(Schneider & Domhoff, 2001). The DreamSAT program is used to allow additional evaluation referring to the frequency and the relation between categories (See Appendix 15 for the formulas used for calculating Hall and Van de Castle content indicators). Some samples of dream and ganzfeld reported experiences coding are also presented now to illustrate about the use of the Hall and Van de Castle codes, and about participants reports. Coding cards as those presented here were used to aggregate the reported experiences' codes and latter on as a foundation to enter the data in the Dream SAT program.

Samples of Coded Ganzfeld Mentation, Ganzfeld Report, and Dream Report

Sample 1 - Ganzfeld Mentation

I see something, square, as it would be a television, but just the corner of a television, now I see a, a barrage and a very strong water current, leaking, a fish, biting, a sandal or a sleepers, an old automobile, an old automobile going up a, a hill, circulating a hill, very dangerous streets, very high, another old automobile, much older than the first one, sort of black, the first was also a sort of black, a convertible automobile, round lights, I see a champagne box and some glasses, fireworks, I see Rio de Janeiro Redeemer Christ's image, as I skim it but he is not with the arms open he hangs a book, rain, a rainstorm, strong winds, a very old speed car.

Ganzfeld Mentation in Portuguese

Eu vejo algo, quadrado, como se fosse um um televisor, mas apenas o canto de um televisor, agora eu vejo uma, uma represa e uma corrente de água muito forte, vazando, um peixe, mordendo uma sandália ou um chinelo, um automóvel antigo, um automóvel antigo subindo uma, uma serra, circundando uma serra, ruas muito perigosas, muito alto, um outro automóvel antigo, mais antigo ainda que o primeiro, meio escuro, o primeiro também era meio escuro, um automóvel conversível, faróis arredondados, vejo uma caixa de champagne e algumas taças, fogos de artifício, vejo a imagem de Cristo Redentor no Rio de Janeiro, como se eu sobrevoasse mas ele não está com os braços abertos ele segura um livro, chuva, raios, uma tempestade, ventos fortes, um carro de corrida muito antigo.

Ganzfeld Mentation Sample 1						
Char.	Aggression		Friendliness	Sexuality	Settings	Modifiers
1ANI 5MPA					O Q O Q	L- I+ A+ L- I+ A+ A+
					Objects	
					CM NA CL	
	Activities			TR ST MS TR MS FO HH MS RG		
	D S 1ANI P D L				CM TR AM NA	
Success	Failure	Misfortune	Good Fortune	Emotions		

Sample 2 - Ganzfeld Written Report

Before finishing the relaxation it came to me the image of a bump such as those found in old houses and show cardinal points. The image was like as it would be in a park, with children running, playing, people happy and amusing themselves. I felt calmness, peace. I had an image of a big bird with open wings. The sensation of the images that I saw were of happiness, celebration.

Ganzfeld Report in Portuguese

Antes de acabar o relaxamento me veio a imagem de um galo que tem em casas antigas que mostram os pontos cardeais. A imagem era como se fosse em um parque, com crianças correndo, brincando, pessoas alegres se divertindo. Senti tranquilidade, paz. Tive a imagem de um pássaro grande com as asas abertas. A sensação das imagens que vi era de alegria , confraternização.

Ganzfeld Written Report Sample 2							
Char.	Aggression		Friendliness		Sexuality	Settings	Modifiers
1ANI 2IUC 2IUA 1ANI						AQ	A+ S+
						Objects	
						AR AE AD	
	Activities						
	D S 2IUC P 2IUC M D S						
Success	Failure	Misfortune	Good Fortune		Emotions		
					HA, 2IUA HA, D HA, D		

Sample 3 - Dream Report

I was in a bank choosing between some Christmas cards. I chose one that has a green tone, didn't have any Christmas feature, it has just a texture. They were small, not bigger than a identity card, I bought two of them, that cost very little, 30 or 50 cents, when entering the bank I passed through a door semi-open needing to get down, woke up and came back to bed. I dreamed again about the subject, was going through a street and invited some young people who were sited down in a chair, three youngest, to participate of some kind of ritual or mass. They participated of this ritual that was honouring the crucifixion of Jesus. One of the youngest started to dramatise it.

Dream Report in Portuguese

Eu estava num banco escolhendo entre alguns cartões de natal. Eu escolhi um que era em tom de verde, não tinha nenhuma gravura natalina, tinha apenas uma textura. Eles eram pequenos, não maiores que uma carteira de identidade, eu comprei dois deles, que custaram muito pouco, 30 ou 50 centavos, ao entrar no banco eu passei por uma porta semi aberta precisando me abaixar, acordei e voltei a dormir. Voltei a sonhar sobre o tema, passava numa rua e convidei alguns jovens que estavam sentados num banco, três jovens, para participar de uma espécie de ritual ou missa. Eles participavam desse ritual que homenageava a crucificação de Jesus, Um dos jovens passou a dramatizá-la..

Dream Report Sample3						
Char.	Aggression		Friendliness	Sexuality	Settings	Modifiers
2MUT 5MPA 1MUT			D 5> 2MUT		IQ OQ	C+ S-
					Objects	
					CM CM AD ST HH MO	
	Activities					
D P D P D M D P D V> 2MUT 1MUT P		2MUT P D P				
Success	Failure	Misfortune	Good Fortune	Emotions		

Analyses

The content analysis data was analysed using the DreamSAT program (Schneider & Domhoff, 2001). The DreamSAT program is specially designed for the Hall/Van de Castle system of dream content analysis, and provides percentages of the dream features reported. Dream reports vary greatly in length either from person to person and from group to group as well as from dream to dream for the same person. Dream literature shows, for instance, that dream reports of women are 6 to 8 per cent longer than dream reports of men (i.e., Domhoff, 1996). According to that, there is the possibility that longer dream reports have more of everything in them, like more characters, more objects, and so on. Thus, the way used by the Hall and Van de Castle system to correct for dream report length, is by the use of percentages, as illustrated by Domhoff (2001). Domhoff (2001, *p.* 1) used the 'animal percent' indicator to exemplify how percentages can be used to correct for dream length, as follows:

Here is a concrete example of how percentages help us: the 'animal percent' indicator. In order to determine if a person or group has more animals than usual in their dreams, we can't simply count the number of animals because their dream reports may be longer than usual, or there may be more living creatures in general in their dreams (i.e., more animals and more people). We could divide the number of animals by the number of lines in the dream reports, and derive a mean score, but that gets us into the problem of some people being wordier than others. Besides, means don't lend themselves to the simple and clear analysis we can do with percentages. So, what we do for every person or group is to divide the total number of animals by the total number of characters (animals plus people), and this gives us the animal percent. Thus, no matter how long or short the reports may be, or whatever the density of animals and people in reports of the same length, the animal percent corrects for these differences. Moreover, it turns out to be an interesting indicator that we all can grasp at a glance because we are so familiar with percentages. ... In summary, percentages are an excellent statistic for use with nominal data - which is all we really have - and a necessity for us in any case because of our need to correct for dream length.

The data were analysed by the DreamSAT program using Cohen's (1977) h statistic for all percentage differences. Then one can calculate p by using a weighted N and doing a z -score transformation. Cohen's h statistic serves also as a measure of effect size, as presented in Appendix 16 where a discussion of the statistic used by the Hall and Van de Castle system is presented and explained. According to Domhoff (1996, p.316), the effect size h can be categorized as a small effect size (varying from $h = .10$ to $.40$), a medium effect size (varying from $h = .41$ to $.70$), or a large effect size ($h = .71$ or greater). A very large effect size h can go over 1.00 (i.e., $h = 1.23$; $h = 2.01$; $h = 3.14$).

Hypotheses

The hypotheses were specified prior to the beginning of the study: 1) That this exploratory analysis would find similar frequencies within content categories used to report both dream and ganzfeld imagery. 2) That this exploratory analysis would find gender differences regarding references to content categories. The other analyses were also exploratory, including the following: The dream reports' gender and success content analysis comparison; the ganzfeld mentation reports' gender and success comparison; the ganzfeld written reports' gender and success comparison; and the content analysis comparison between the dream reports and ganzfeld written reports. All comparisons were 2t.

Results

Each of the 150 reported experiences' reports (50 Dream reports; 50 Ganzfeld mentation reports; and, 50 Ganzfeld written reports) was coded for the Hall and Van de Castle categories, and subcategories. The reader must be aware while reviewing the data, that percentages of characters in each sub-category, social interactions in each sub-category, settings in each sub-category, and other content categories in each sub-category were calculated from the total number of characters, social-interactions, settings, and other content categories. Therefore, when percentages are provided, these are the percentages of the content item in their categories, and not the percentages of the total dream reports. The exception is the section where all dreams were assessed to determine aggression, friendly, sexuality, misfortune, and good fortune, success, failure, and striving content, which is the final tally of the tables, separated from the others by a line. A reliability check was made between the two coders, yielding intercoder reliability scores by the method of common agreement with a range between 96% and 98%.

Hypothesis one, that this exploratory analysis would find similar frequencies within content categories used to report both dream and ganzfeld imagery, was not confirmed. Male participants' ganzfeld written reports, in relation to dream reports, obtained statistically significant differences on thirteen categories, and female participants obtained statistically significant differences on twenty one categories. Interpretation of that is presented within the conclusion of this chapter.

Hypothesis two, that this exploratory analysis would find gender differences regarding references to content categories, was confirmed. Participants' dream reports contained eight statistically significant differences, ganzfeld mentation reports

had ten statistically significant differences, and ganzfeld written reports showed seven statistically significant differences. Possible interpretation of that is presented within the conclusion of this chapter.

Dream Reports' Content Analysis

Comparison of Male and Female Dream Reports

Regarding the exploratory analysis of dream reported experiences, a comparison was conducted of gender differences in content from Brazilian participants' dream reports. As shown in Table 18, in comparison to Brazilian female participants, dream reports from Brazilian male participants contained more references to physical aggression ($h = .1.02, p = .001, z = 4.56$), bodily misfortunes ($h = 1.03, p = .001, z = 4.60$), dreamer-involved success ($h = 1.57, p = .026, z = 2.96$), and good fortune ($h = .54, p = .016, z = 2.41$), and fewer references to indoor setting ($h = .46, p = .040, z = 1.45$), familiar setting ($h = 1.16, p = .003, z = 5.18$), sexuality ($h = .49, p = .028, z = 2.14$), and failure ($h = .76, p = .007, z = 3.39$). In addition, the areas in which no difference was reported were considered where both genders shown around the same proportion on male/female characters (46% and 45%), animal (05% and 06%), self-negatively per cent (73% and 74%), and in dream reports with at least one success category (07% and 08%). Interpretation of those data are provided within the conclusion of this chapter.

Table 18
Gender Differences in Content from Brazilian Participants' Dream Reports

	Male (N = 14)	Female (N = 36)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	46%	45%	+.02	.936
Familiarity per cent	45%	40%	+.10	.659
Friends per cent	32%	23%	+.20	.373
Family per cent	05%	14%	-.31	.167
Dead & Imaginary per cent	08%	02%	+.29	.197
Animal per cent	05%	06%	-.05	.825
<i>Social Interactions</i>				
Aggression/Friendliness per cent	60%	50%	+.20	.373
Befriender per cent	83%	69%	+.33	.141
Aggressor per cent	25%	36%	-.24	.284
Physical aggression per cent	75%	27%	+1.02	.001
<i>Settings</i>				
Indoor setting per cent	44%	67%	-.46	.040
Familiar setting per cent	50%	96%	-1.16	.003
<i>Other Content Categories</i>				
Self-Negatively per cent	73%	74%	-.03	.920
Bodily misfortunes per cent	50%	07%	+1.03	.001
Negative emotions per cent	100%	83%	+.84	.453
Dreamer-Involved success per cent	100%	50%	+1.57	.026
Torso/Anatomy per cent	20%	42%	-.48	.502
<i>Dream Reports with at Least One:</i>				
Aggression	43%	39%	+.08	.726
Friendliness	36%	31%	+.10	.659
Sexuality	00%	06%	-.49	.028
Misfortune	14%	25%	-.28	.211
Good fortune	07%	00%	+.54	.016
Success	07%	08%	-.04	.865
Failure	00%	14%	-.76	.007
Striving	07%	19%	-.37	.098

"+" means that male reports are higher than female reports on the indicator.

Comparison of male and female dream reports with the Hall & Van de Castle norms

Comparing our findings of male dream reports to the Hall and Van de Castle normative findings, as shown in Table 19, it was found that between the two samples only six categories were similar: friends percent (our findings = 32%, norms = 31%), animal percent (our findings = 05%, norms = 06%), Aggression/Friendliness percent (our findings = 60%, norms = 59%), friendliness (our findings = 36%, norms = 38%), and good Fortune (our findings = 07%, norms = 06%). All the other male dream reports' categories showed different percentages from those of the Hall and Van de Castle norms. The Brazilian male dream reports had a percentage of familiarity of 45%, which resemble the Hall and Van de Castle norms.

Regarding female dream reports, as shown in Table 20, comparing our findings to the Hall and Van de Castle normative findings resulted in having only three categories that were consistent with the norms: Dead & Imaginary percent (our findings = 02%, norms = 01%), Aggression/Friendliness percent (our findings = 50%, norms = 51%), and dreams with at least one success (our findings = 08%, norms = 08%). Either male and female dream reports showed replication of the norms for Aggression/Friendliness percent (our findings = 50%, norms = 51%). It was learned from that the Hall and Van de Castle norms for male and female dream report's categories were not replicated in our study, and interpretation of that is presented in the conclusion of this chapter.

Table 19
Comparison of Male Dream Reports with the Hall and Van de Castle Norms

	Present Study	Male Norms
<i>Characters</i>		
Male/Female per cent	46%	67%
Familiarity per cent	45%	45%
Friends per cent	32%	31%
Family per cent	05%	12%
Dead & Imaginary per cent	08%	00%
Animal per cent	05%	06%
<i>Social Interactions</i>		
Aggression/Friendliness per cent	60%	59%
Befriender per cent	83%	50%
Aggressor per cent	25%	40%
Physical aggression per cent	75%	50%
<i>Settings</i>		
Indoor setting per cent	44%	48%
Familiar setting per cent	50%	62%
<i>Other Content Categories</i>		
Self-Negatively per cent	73%	65%
Bodily misfortunes per cent	50%	29%
Negative emotions per cent	100%	80%
Dreamer-Involved success per cent	100%	51%
Torso/Anatomy per cent	20%	31%
<i>Dream Reports with at Least One:</i>		
Aggression	43%	47%
Friendliness	36%	38%
Sexuality	00%	12%
Misfortune	14%	36%
Good fortune	07%	06%
Success	07%	15%
Failure	00%	14%
Striving	07%	27%

Table 20
Comparison of Female Dream Reports with the Hall and Van de Castle Norms

	Present Study	Female Norms
<i>Characters</i>		
Male/Female per cent	45%	48%
Familiarity per cent	40%	58%
Friends per cent	23%	37%
Family per cent	14%	19%
Dead & Imaginary per cent	02%	01%
Animal per cent	06%	04%
<i>Social Interactions</i>		
Aggression/Friendliness per cent	50%	51%
Befriender per cent	69%	47%
Aggressor per cent	36%	33%
Physical aggression per cent	27%	34%
<i>Settings</i>		
Indoor setting per cent	67%	61%
Familiar setting per cent	96%	79%
<i>Other Content Categories</i>		
Self-Negatively per cent	74%	66%
Bodily misfortunes per cent	07%	35%
Negative emotions per cent	83%	80%
Dreamer-Involved success per cent	50%	42%
Torso/Anatomy per cent	42%	20%
<i>Dream Reports with at Least One:</i>		
Aggression	39%	44%
Friendliness	31%	42%
Sexuality	06%	04%
Misfortune	25%	33%
Good fortune	00%	06%
Success	08%	08%
Failure	14%	10%
Striving	19%	15%

Comparison of Dream Report Male Hits and Misses

This comparison was not conducted because one the group's N was too small to conduct any meaningful analysis ($N = 3$).

Comparison of Dream Report Female Hits and Misses

In what refers to the exploratory analysis of female dream reports' 'hits' (rank 1 to the target) and 'misses' (rank 4 to the target), a comparison was conducted in order to investigate which content categories, if any, would be associated with dream successful trials. Table 21 shows that in comparison with female dream reports' 'misses', female dream reports' 'hits' have more references to animal ($h = .71, p = .033, z = 2.13$), aggression/friendliness ($h = .79, p = .017, z = 2.37$), befriender ($h = .98, p = .003, z = 2.94$), negative emotions ($h = 1.16, p = .005, z = 3.48$), torso/anatomy ($h = 2.01, p = .002, z = 6.03$), and fewer references to male/female characters ($h = .67, p = .044, z = 2.01$), dream-involved success ($h = 1.57, p = .001, z = 4.71$), friendliness ($h = .72, p = .030, z = 2.16$), and misfortune ($h = 1.49, p = .001, z = 4.47$). No difference was reported on familiar setting (100% and 100%), and both female dream reports' 'hits' and 'misses' had about the same proportion on friends characters (24% and 25%), and on indoor setting (63% and 62%). The results seem to indicate that dream successful trials for female participants would be related with more references on animal, aggression/friendliness, befriender, negative emotions, and torso/anatomy categories. Possible content patterns between female dream reports 'hits', female ganzfeld mentation 'hits', and female ganzfeld written reports 'hits' which are presented below, and the interpretation of that, are

presented in this chapter’s conclusion, as well as patterns related to reports with unsuccessful trials.

Table 21
Percentages of Female Dream Reports’ ‘Hits’ and ‘Misses’

	Hits (N = 07)	Misses (N = 13)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	18%	49%	-.67	.044
Familiarity per cent	35%	45%	-.20	.548
Friends per cent	24%	25%	-.03	.368
Family per cent	06%	16%	-.32	.337
Dead & Imaginary per cent	05%	02%	+.16	.631
Animal per cent	23%	02%	+.71	.033
<i>Social Interactions</i>				
Aggression/Friendliness per cent	83%	47%	+.79	.017
Befriender per cent	100%	78%	+.98	.003
Aggressor per cent	50%	29%	+.44	.186
Physical aggression per cent	14%	18%	-.11	.741
<i>Settings</i>				
Indoor setting per cent	63%	62%	+.01	.976
Familiar setting per cent	100%	100%	0	0
<i>Other Content Categories</i>				
Self-Negatively per cent	100%	81%	+.90	.071
Bodily misfortunes per cent	00%	10%	-.64	.054
Negative emotions per cent	100%	70%	+1.16	.005
Dreamer-Involved success per cent	00%	50%	-1.57	.001
Torso/Anatomy per cent	100%	29%	+2.01	.002
<i>Dream Reports with at Least One:</i>				
Aggression	43%	54%	-.22	.509
Friendliness	14%	46%	-.72	.030
Sexuality	14%	08%	+.21	.528
Misfortune	00%	46%	-1.49	.001
Success	00%	08%	-.56	.093
Failure	29%	15%	+.32	.337
Striving	29%	15%	+.32	.337

“+” means that female dream report hits are higher than female dream reports misses on the indicator.

Ganzfeld Mentation Reports Content Analysis

Comparison of Male and Female Ganzfeld Mentation Reports

In another exploratory analysis, a comparison of gender differences in content from Brazilian participants' ganzfeld mentation reports was conducted. The intention was to investigate differences and similarities between ganzfeld mentation reports of male and female participants. Table 22 shows that, in comparison with female participants, ganzfeld mentation from Brazilian male participants had more references to friendliness ($h = .54, p = .015, z = 2.41$), and fewer references to friends ($h = .45, p = .044, z = 2.01$), aggression/friendliness ($h = 3.14, p = .001, z = 9.92$), physical aggression ($h = 1.23, p = .001, z = 5.50$), familiar setting ($h = .72, p = .001, z = 3.21$), self-negatively ($h = 1.05, p = .001, z = 4.69$), negative emotions ($h = 1.35, p = .001, z = 5.03$), dream-involved success ($h = 3.14, p = .001, z = 9.92$), torso/anatomy ($h = .93, p = .013, z = 2.94$), and, aggression ($h = .58, p = .009, z = 2.59$). The subcategories with no percentages (0%) were excluded from Table 22. Thus, these results show that female participants had more references than male participants on eight content categories. The interpretation of that is presented in the conclusion.

Table 22
Gender Differences in Content from Brazilian Participants' Ganzfeld Mentation Reports

	Male (N = 14)	Female (N = 36)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	75%	56%	+.41	.070
Familiarity per cent	08%	13%	-.16	.477
Friends per cent	00%	05%	-.45	.044
Dead & Imaginary per cent	11%	05%	+.23	.307
Animal per cent	32%	38%	-.13	.561
<i>Social Interactions</i>				
Aggression/Friendliness per cent	00%	100%	-3.14	.001
Physical aggression per cent	00%	33%	-1.23	.001
<i>Settings</i>				
Indoor setting per cent	24%	12%	+.31	.167
Familiar setting per cent	50%	83%	-.72	.001
<i>Other Content Categories</i>				
Self-Negatively per cent	00%	25%	-1.05	.001
Negative emotions per cent	00%	39%	-1.35	.001
Dreamer-Involved success per cent	00%	100%	-3.14	.001
Torso/Anatomy per cent	25%	31%	-.93	.013
<i>Dream Reports with at Least One:</i>				
Aggression	00%	08%	-.58	.009
Friendliness	07%	00%	-.54	.015
Misfortune	00%	03%	-.34	.126
Good fortune	00%	03%	-.34	.126
Success	00%	03%	-.34	.126
Striving	00%	03%	-.34	.126

"+" means that male ganzfeld mentation are higher than female ganzfeld mentation on the indicator.

Comparison of Ganzfeld Mentation Male Hits and Misses

This comparison was not conducted because one group's N was too small to conduct any meaningful analysis (N = 0).

Comparison of Ganzfeld Mentation for Female Hits and Misses

The purpose of doing this exploratory analysis was to find out which categories were related to female successful ganzfeld mentation trials. Table 23 shows that in comparison to Brazilian female participants' ganzfeld mentation 'misses', Brazilian female participants' ganzfeld mentation 'hits' contained more references to indoor setting ($h = 2.37, p = .001, z = 6.07$), familiar setting ($h = 3.14, p = .001, z = 8.30$), and torso/anatomy ($h = .93, p = .013, z = 2.46$), and fewer references to male/female characters ($h = 1.57, p = .001, z = 4.15$), aggression/friendliness ($h = 3.14, p = .001, z = 8.30$), and negative emotions ($h = 1.68, p = .001, z = 4.44$). The subcategories on both 'hits' and 'misses' reports which had no percentages were excluded from Table 23. The results of ganzfeld mentation female 'hits' and 'misses' appear to show that ganzfeld successful trials are related with more references to indoor setting, familiar setting, and torso/anatomy categories. Female participants references to indoor setting and familiar setting might be related to the fact that Brazilian women usually works at home. The relation of these imagery with success might be related to the fact that it would be easier to recognise an image that does not belong to those settings, and that image could be related to psi, but that is speculation. A pattern between female dream, ganzfeld, and ganzfeld written reports regarding the torso/anatomy category is presented in the conclusion of this chapter.

Table 23
Percentages of Female Ganzfeld Mentation Reports' 'Hits' and 'Misses'

	Hits (N = 05)	Misses (N = 14)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	00%	50%	-1.57	.0001
Familiarity per cent	00%	09%	-.61	.107
Animal per cent	55%	50%	+.10	.794
<i>Social Interactions</i>				
Aggression/Friendliness per cent	00%	100%	-3.14	.001
<i>Settings</i>				
Indoor setting per cent	100%	14%	+2.37	.001
Familiar setting per cent	100%	00%	+3.14	.001
<i>Other Content Categories</i>				
Negative emotions per cent	00%	56%	-1.68	.001
Torso/Anatomy per cent	50%	10%	+.93	.013
<i>Dream Reports with at Least One:</i>				
Aggression	07%	00%	+.54	.155

"+" means that female ganzfeld mentation report hits are higher than female ganzfeld mentation reports misses on the indicator.

Ganzfeld Written Reports Content Analysis

Comparison of Male and Female Ganzfeld Written Reports

In another exploratory analysis of ganzfeld written reports, a comparison was conducted on gender differences in content from Brazilian participants' ganzfeld written reports. Table 24 shows that, in comparison to Brazilian female participants, ganzfeld written reports from Brazilian male participants contained more references to familiar setting ($h = 1.37$, $p = .001$, $z = 5.12$), and fewer references to aggression/friendliness ($z = 2.21$, $p = .001$, $z = 3.88$), aggressor ($z = 1.23$, $p = .001$, $z = 5.50$), physical aggression ($h = 1.13$, $p = .001$, $z = 5.05$), negative emotions ($h = 1.45$, $p = .001$, $z = 6.42$), and aggression ($h = .85$, $p = .001$, $z = 3.80$). Areas with no

difference were found in self-negatively per cent (100% and 100%). Interpretation of these results are presented in the conclusion of this chapter.

Table 24
Gender Differences in Content from Brazilian Participants' Ganzfeld Written Reports

	Male (N = 14)	Female (N = 36)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	67%	71%	-.08	.726
Familiarity per cent	09%	06%	+.12	.701
Dead & Imaginary per cent	14%	04%	+.37	.098
Animal per cent	21%	37%	-.35	.118
<i>Social Interactions</i>				
Aggression/Friendliness per cent	00%	80%	-2.21	.001
Befriender per cent	00%	100%	-3.14	.001
Aggressor per cent	00%	33%	-1.23	.001
Physical aggression per cent	00%	29%	-1.13	.001
<i>Settings</i>				
Indoor setting per cent	29%	18%	+.27	.230
Familiar setting per cent	100%	60%	-1.37	.001
<i>Other Content Categories</i>				
Self-Negatively per cent	100%	100%	0	0
Negative emotions per cent	00%	44%	-1.45	.001
Torso/Anatomy per cent	36%	28%	+.17	.447
<i>Dream Reports with at Least One:</i>				
Aggression	00%	17%	+.85	.001
Friendliness	07%	03%	+.19	.631
Misfortune	07%	03%	+.19	.631

“+” means that male ganzfeld written reports are higher than female ganzfeld written reports on the indicator.

Comparison of Male Ganzfeld Written Reports Hits and Misses

This comparison was not conducted because the Ns were too small (N = 1, and N = 2) to conduct any meaningful analysis.

Comparison of Female Ganzfeld Written Reports' Hits and Misses

Referring to the exploratory comparative analysis of female ganzfeld written reports' 'hits' and 'misses', the investigation intended to find out which content categories were related to ganzfeld written reports' successful trials. Table 25 shows, in comparison to Brazilian male ganzfeld written reports' 'misses', that ganzfeld written reports from Brazilian male participants' 'hits' contained more references to aggression/friendliness ($h = 3.14, p = .001, z = 8.30$), aggressor ($h = 3.14, p = .001, z = 8.30$), indoor setting ($h = 2.30, p = .001, z = 5.08$), familiar setting ($h = 3.14, p = .001, z = 8.30$), torso/anatomy ($h = 2.30, p = .001, z = 5.08$), and aggression ($h = 1.05, p = .005, z = 2.77$), and fewer references to male/female ($h = 1.77, p = .001, z = 4.68$), and familiarity ($h = .78, p = .039, z = 2.06$). Subcategories with no percentages were omitted from Table 25. Areas in which no difference was reported were found in negative emotions (20% and 20%).

The results show that female participants' ganzfeld written reports 'hits' appear to be related to more references of content on aggression/friendliness, aggressor, indoor setting, familiar setting, torso/anatomy, and dreams with at least one aggression. Patterns within dream, ganzfeld mentation, and ganzfeld written reports success are presented and interpreted in the conclusion of this chapter.

Table 25
Percentages of Female Ganzfeld Written Reports' 'Hits' and 'Misses'

	Hits (N = 05)	Misses (N = 14)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	00%	60%	-1.77	.001
Familiarity per cent	00%	14%	-.78	.039
Animal per cent	43%	53%	+.21	.582
<i>Social Interactions</i>				
Aggression/Friendliness per cent	100%	00%	+3.14	.001
Aggressor per cent	100%	00%	+3.14	.001
<i>Settings</i>				
Indoor setting per cent	100%	17%	+2.30	.001
Familiar setting per cent	100%	00%	+3.14	.001
<i>Other Content Categories</i>				
Negative emotions per cent	20%	20%	0	0
Torso/Anatomy per cent	100%	17%	+2.30	.001
<i>Dream Reports with at Least One:</i>				
Aggression	25%	00%	+1.05	.005

"+" means that female ganzfeld written reports hits are higher than female ganzfeld written reports misses on the indicator.

Dream Reports and Ganzfeld Reports

Comparison of Male Dream Reports and Ganzfeld Written Reports

In another exploratory analysis, Brazilian participants' dream written reports were compared to Brazilian participants' ganzfeld written reports. The ganzfeld written report is a written report based on the ganzfeld mentation experience, as the dream report is based on the dream experience. The comparison between the two was conducted to explore similarities between them in order to investigate whether Brazilian participants' dream and ganzfeld experiences would be reported using similar content categories' frequencies or not. Table 26 shows that, in

comparison to Brazilian male dream reports, ganzfeld written reports from Brazilian participants had more references to familiar setting ($h = 1.57, p = .001, z = 4.15$), and self-negativity ($h = 1.10, p = .003, z = 2.91$), and fewer references to familiarity ($h = .86, p = .023, z = 2.27$), friends ($h = 1.20, p = .001, z = 3.17$), all items of social interactions, bodily misfortunes ($h = 1.57, p = .002, z = 4.15$), negative emotions ($h = 3.14, p = .001, z = 8.30$), dreamer-involved success ($h = 3.14, p = .001, z = 8.30$), aggression ($h = 1.43, p = .002, z = 3.78$), and friendliness ($h = .75, p = .047, z = 1.98$). Areas with no difference or showing around the same proportions were not found in the data. The results show that dream reported experiences and ganzfeld reported experiences differ greatly regarding content categories' frequencies, and that dreams are richer qualitatively than ganzfeld experiences. Interpretation of results are presented in the conclusion of this chapter.

Table 26
Percentages Differences of Male Dream Reports and Ganzfeld Written Reports

	Dream (N = 14)	Ganzfeld (N = 14)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	46%	67%	-.42	.267
Familiarity per cent	45%	09%	+.86	.023
Friends per cent	32%	00%	+1.20	.001
Family per cent	05%	00%	+.45	.234
Dead & Imaginary per cent	08%	14%	-.19	.617
Animal per cent	05%	21%	+.51	.180
<i>Social Interactions</i>				
Aggression/Friendliness per cent	60%	00%	+1.77	.001
Befriender per cent	83%	00%	+2.30	.001
Aggressor per cent	25%	00%	+1.05	.005
Physical aggression per cent	75%	00%	+2.09	.001
<i>Settings</i>				
Indoor setting per cent	44%	29%	+.31	.412
Familiar setting per cent	50%	100%	-1.57	.001
<i>Other Content Categories</i>				
Self-Negatively per cent	73%	100%	-1.10	.003
Bodily misfortunes per cent	50%	00%	+1.57	.002
Negative emotions per cent	100%	00%	+3.14	.001
Dreamer-Involved success per cent	100%	00%	+3.14	.001
Torso/Anatomy per cent	20%	36%	-.37	.332
<i>Dream Reports with at Least One:</i>				
Aggression	43%	00%	+1.43	.002
Friendliness	36%	07%	+.75	.047
Misfortune	14%	07%	+.23	.548
Good fortune	07%	00%	+.54	.155
Success	07%	00%	+.54	.155
Striving	07%	00%	+.54	.155

“+” means that male dream report are higher than male ganzfeld written reports on the indicator.

Comparison of Female Dream and Ganzfeld Written Reports

In another exploratory analysis, a comparison of Brazilian female participants' dream reports and Brazilian participants' ganzfeld written reports was conducted. Table 27 presents that, in comparison to Brazilian female participants' dream reports, ganzfeld written reports from female participants contained more references to male/female ($h = .53, p = .025, z = 2.24$), animal ($h = .81, p = .006, z = 3.43$), all items of social interactions, befriender ($h = .78, p = .001, z = 3.30$), physical aggression ($h = .67, p = .045, z = 2.84$), and self-negativity ($h = .87, p = .002, z = 3.69$), and fewer references to familiarity ($h = .88, p = .002, z = 3.73$), friends ($h = 1.0, p = .001, z = 4.24$), family ($h = 1.0, p = .001, z = 3.22$), aggressor ($h = .63, p = .076, z = 2.67$), indoor setting ($h = 1.04, p = .001, z = 4.41$), familiar setting ($h = .96, p = .001, z = 4.07$), bodily misfortunes ($h = .54, p = .022, z = 2.29$), negative emotions ($h = .85, p = .003, z = 3.60$), dreamer-involved success ($h = 1.57, p = .001, z = 5.66$), aggression ($h = .49, p = .038, z = 2.07$), friendliness ($h = .84, p = .004, z = 3.56$), sexuality ($h = .48, p = .042, z = 2.03$), misfortune ($h = .70, p = .003, z = 2.96$), success ($h = .58, p = .013, z = 2.46$), failure ($h = .76, p = .001, z = 3.22$), and striving ($h = .91, p = .001, z = 3.86$). Areas with no difference or showing around the same proportions were not found in the data. Results show that female's dream reported experiences and ganzfeld reported experiences differ greatly regarding content categories' frequencies, as it was for the male participants. Male and female Brazilian participants had richer dream imagery than ganzfeld imagery, and possible reasons for that will be discussed in the conclusion section of this chapter.

Table 27
Percentages Differences of Female Dream Reports and Ganzfeld Written Reports

	Dream (N = 36)	Ganzfeld (N = 36)	<i>h</i>	<i>p</i> (2t)
<i>Characters</i>				
Male/Female per cent	45%	71%	-.53	.025
Familiarity per cent	40%	06%	+.88	.002
Friends per cent	23%	00%	+1.00	.001
Family per cent	14%	00%	+1.00	.001
Dead & Imaginary per cent	02%	04%	-.07	.771
Animal per cent	06%	37%	-.81	.006
<i>Social Interactions</i>				
Aggression/Friendliness per cent	50%	80%	-.64	.006
Befriender per cent	69%	100%	-.78	.001
Aggressor per cent	36%	33%	+.63	.076
Physical aggression per cent	26%	29%	-.67	.045
<i>Settings</i>				
Indoor setting per cent	67%	18%	+1.04	.001
Familiar setting per cent	96%	60%	+.96	.001
<i>Other Content Categories</i>				
Self-Negatively per cent	74%	100%	-.87	.002
Bodily misfortunes per cent	07%	00%	+.54	.022
Negative emotions per cent	83%	44%	+.85	.003
Dreamer-Involved success per cent	50%	00%	+1.57	.001
Torso/Anatomy per cent	42%	28%	+.29	.218
<i>Dream Reports with at Least One:</i>				
Aggression	39%	17%	+.49	.038
Friendliness	31%	03%	+.84	.004
Sexuality	06%	00%	+.48	.042
Misfortune	25%	03%	+.70	.003
Success	08%	00%	+.58	.013
Failure	14%	00%	+.76	.013
Striving	19%	00%	+.91	.001

“+” means that female dream reports are higher than female ganzfeld written reports on the indicator.

Summary and Conclusions

As seen previously, studies conducted on participants' mentation and process of reporting and explaining their experiences appear to be one way of telling us more about psi (e.g. Carpenter, 1987; Delanoy, 1988-89; White, Krippner, & Ullman., 1968). The hypothesis that there would be found common categories used to report both dream and ganzfeld imagery, measured by observing similar frequencies within content categories, was not confirmed. The majority of dream reports' content were qualitatively richer than ganzfeld written reports' content, regarding reference of content categories, for both male and female Brazilian participants. If Ullman's (1950) dream theory of vigilance and dreaming, cited in chapter 2, is considered in relation to the ganzfeld experience in this study, that seems to fit the idea that a person can make an emotionally determined decision as to whether it is safe to continue with their ganzfeld experience, or not. While in the ganzfeld experience, participants have control of their experience, and if they decide to stop the induced dream-like state, they are certainly able to do that even though the experiment's instructions were not to. In the case participants have decided to stop their ganzfeld induced dream-like state for some reason, that might have lead them to have common thoughts and concerns, such as of their financial problems or something like that. And despite of being instructed to report every image or thought they had in the ganzfeld experience, participants while in this condition might have reported less than they probably would if in an induced dream-like. Thus, differences found between dream and ganzfeld reports might be related to the fact that while in dreaming, participants are in altered state of consciousness, and during the ganzfeld

mentation that might not have been the case, and the imagery might be then poor as a result.

The hypothesis that there would be gender differences regarding frequencies within content categories was confirmed. In the gender dream reports' comparison, eight categories were found to be statistically significantly different, with male having four of those categories with more reference of content than female participants. In comparing our findings to a recent publication by Krippner and Weinhold (2001) of gender differences in the content of Brazilian participants in dream seminars, it was found that our sample for male and female participants differed greatly from Krippner and Weinhold's sample, having only one female dream category with similar percentage, dreams with at least one misfortune (our sample = 25%, Krippner & Weinhold = 26%). Moreover, as presented earlier, the present study's dream gender data appear to be mostly different in content references from the Hall and Van de Castle norms, but perhaps, larger samples present a more accurate picture of Brazilian dream content. The gender differences found between the present study and both Krippner and Weinhold study and Hall and Van de Castle norms, might have happened because Krippner and Weinhold study used dream reports collected for dream seminars, which Krippner gave in Brazil, while the authors' study had dream reports collected from an experimental condition. It is speculated that motivation to report dreams to the Krippner study, that were worked and interpreted during the seminars, might have been different from the motivation involved in reporting dreams to an experimental condition where ESP was being tested, and no dream interpretation was taking place. Thus, special or recurrent dream reports might have

been chosen by Krippner's participants to served as data for interpretation during the seminars.

In the gender ganzfeld mentation reports' comparison, ten categories were found to be statistically significantly different, with male having only one category with more reference of content than female participants. And, in the gender ganzfeld written reports' comparison seven categories were statistically significantly different, with male having only one category with more reference of content than female participants. Thus, female participants had more reference to content categories than males for both ganzfeld mentation and ganzfeld written reports. It has to be considered that the author was the ganzfeld experimenter, and that male participants might have been shy to report their experiences to me than female participants. Thus, it might be the case that male participants did not reference content categories as much as the female participants because of that, and perhaps because Brazil has a strong chauvinistic culture, so that might implicate that male participants would not like to report their experiences to a male experimenter. That is supported by Dalton (1997) ganzfeld study findings that when male receivers were tested with male senders they got the worst results. However, as a general rule for all content analysis conducted in this study, one can never be sure if a real difference exists without replication, but can be relatively more confident if the Ns are large and not very different and if a strong effect size is present.

Regarding other exploratory analysis, it is interesting that a pattern was found between the female Dream reports' successful trials, the female Ganzfeld mentation reports' successful trials, and the female Ganzfeld written reports' successful trials. The pattern found is that dream, ganzfeld mentation, and ganzfeld

written successful reports contained more reference of content to torso/anatomy (e.g., torso: shoulders, chest, abdomen, hips, etc.; anatomy: bony and visceral, skull, ribs, leg bone, secretions such as blood, saliva, etc.) than dream, ganzfeld, and ganzfeld unsuccessful reports. This pattern is interesting because it has been suggested (e.g., Delanoy, 1988-89; Milton, 1991) that undeveloped, fractional, or vague imagery appears to be related to target correspondences, and torso/anatomy seems to fit that in the sense its imagery is undeveloped as it is presented as fractionated instead of the whole human body. Therefore, one would expect to see more of this imagery or category related to successful trials for the three conditions.

A pattern was also found regarding female Dream unsuccessful reports, female Ganzfeld mentation unsuccessful reports, and female Ganzfeld written unsuccessful reports, that is, all three of them contained more references to male/female characters than for dream, ganzfeld, and ganzfeld successful reports. That is interesting because when participants had imagery related to parts of the body (torso/anatomy) that was related to successful reports, and now that they had imagery related to individuals (male/female characters) that was related to unsuccessful reports.

The comparison of dream and ganzfeld written reports was performed in order to assess, based on similar frequencies within categories, their similarities. However, the results showed that they differ greatly having dreams with richest reports than ganzfeld reports. The ganzfeld written report is based on the ganzfeld mentation experience, so after the ganzfeld mentation period ended, participants were allowed time to write their reports of their ganzfeld mentation based on the memory they had of that. Dreams occur during the sleep state, and dream experience appear

to be far more involving and rich in quality than the ganzfeld N-REM experiences reported, which involved an artificial dream-like state. That was shown by the content analysis comparison and it is understood that this exploratory analysis suggests that Brazilian participants had richer dream imagery than ganzfeld imagery.

Ganzfeld written reports showed differences and less references to content categories than dream reports. The ganzfeld written reports comes from the ganzfeld mentation experience which is constituted generally by random imagery. Thus, it might be more difficult to report a ganzfeld written report of the experienced mentation than a dream report of the experienced dream. That could be illustrated in the light of the Hobson and McCarley (1977) dream theory, the activation-synthesis theory, presented in chapter 2. Hobson and McCarley's theory suggests that there is a high level of essentially random brain activation during REM sleep, and that dreamers try to make sense of their random brain activation by combining the information contained in the bursts of neural activity. This theory accounts for the incoherent nature of many dreams, but not for the coherent nature of dreams. On the other hand, it could help the understanding of the incoherent nature of the ganzfeld mentation dream-like state, in that participants appear to have, for instance, undeveloped, vague, or fractional imagery (Milton, 1991).

It is important to keep in mind that this study dealt with dream reports, and not with dreams as experienced by the dreamer. And as suggested by Krippner, Jaeger, and Faith (2001), it must be taken into consideration the fact that between the actual dream occurrence and the production of the dream written report, various factors could intervene; for instance, the factors related to selective memory, the problems in recalling the dream experience fully, and perhaps the most relevant of

them, the problems related to translate or reduce dream images to written language. The next chapter, chapter 8, presents a discussion of the content analysis results and what have been learned from that.

CHAPTER 8

SUMMARY, CONCLUSIONS AND FUTURE DIRECTIONS

The final chapter of this thesis synthesises the main findings of the dream and ganzfeld experiments and content analysis, discusses its results and concludes with suggested directions for future research. It is important to remember that there are many results under discussion in this chapter which are exploratory in nature, and that multiple analysis of a data base increases the chances of obtaining a significant outcome for those results by chance.

The dream experiment ESP findings

As presented in chapter 4, the dream experiment's results showed no signs of ESP as the overall ESP scores were at chance. The hypothesis that there would be significant results among the dream condition hits, and the hypothesis that there would be a positive relationship between ESP scoring and vividness of visual imagery scoring, were not confirmed. All the other exploratory analysis were non significant with the exception of belief in the existence of ESP which correlated positively with the dream ESP scores ($\rho = .36, p = .01, 2t$), so the higher the belief in the existence of ESP the higher the ESP scores. It is speculated that when participants' believe in the existence of ESP that might facilitate in some way psi manifestation by having participants open and relaxed to the possibility of that (Schmeidler & McConnell, 1958), and thus paying attention to all information received during an experiment, including 'psi information'. In the light of this study ESP findings, it has also to be considered that psi does not exist at all, at least not in a way detectable with the

current procedure, since the null-hypothesis was confirmed. Possible reasons for the dream study null results are presented along side the ganzfeld null results, in the end of the next section.

The ganzfeld experiment ESP findings

Regarding the ganzfeld experiment, as shown in chapter 5, the results for this study were at chance and even mildly suggestive of psi-missing overall. The hypothesis that there would be significant positive results in the ganzfeld condition, and that there would be a significant and positive relationship between ESP scoring and vividness of visual imagery success, were not confirmed. The other exploratory analyses were non significant, with the exception of participants' beliefs of demonstrating psi ability in a controlled laboratory experiment which correlated positively with ESP scores ($\rho = .31, p = .03, 2t$), so the higher the participants' beliefs of demonstrating psi ability in a controlled laboratory experiment the higher the ESP score. Thus as mentioned, the sheep-goat effect was found in this study as well.

In addition, it was found that clarity of images ($\rho = -.34, p = .02$) and clarity of hearing ($\rho = -.32, p = .02$) correlated negatively with ESP scores, so the higher the ESP the lower the clarity of imagery and hearing. One possible interpretation of this is that less clarity of imagery and less clarity of hearing may be important to psi enhancement because one might be more open to receive imagery considered to be psi-related, such as bizarre, unusual, or fragmentary imagery. However, there was no evidence that this study's imagery was related to psi.

Despite some ganzfeld studies' results presented earlier showing psi manifestation, it was found that the results of this study failed to support this trend. The experimenter acted as positively in relation to the ganzfeld condition as he did for the dream condition, but the results were poor for both of them. One could speculate that our poor ganzfeld results may have been caused because some participants were not able to achieve a relaxed or a hypnagogic state in the ganzfeld, but based on participants state reports, scale range from one (waking state) to ten (deep altered/relaxed state), sixty two per cent of the participants reported their state from eight to ten. It is really not clear what happens to be psi conducive in the ganzfeld condition, if it is hypnagogic-like state, or even, if the ganzfeld really generates a hypnagogic-like state (Alvarado, 2000). A recent study conducted by Wackermann, Puts, Buchi, Strauch & Lehmann (2000) regarding a comparison of ganzfeld and hypnagogic state in terms of electrophysiological measures showed that the ganzfeld does not necessarily induce a true hypnagogic state. They suggested that the ganzfeld may not even induce an artificial hypnagogic state, being more similar to a relaxed waking state. However, their study does not necessarily indicate that an hypnagogic state can not be achieved in a ganzfeld session. For instance, the relaxation instructions period used prior to the white noise in ESP ganzfeld sessions was not used in their study, at least not as normally used in a ganzfeld session. One can speculate that the usual initial ganzfeld relaxation period could deepen participants' relaxation to a level that induces a hypnagogic state, at least for some participants.

It is speculated one reason for having poor results in the present ganzfeld and dream condition may be related to cultural differences and perhaps to aspects of

our design intended to prevent experimental flaws. Brazilians are generally used to have contact with rituals such as Umbanda rituals at least once in their lives, and this culture accepts different religions, different rituals, and different beliefs such as superstitions. Thus, it might be the case that Brazilians are open to all that but are more reluctant when testing experimentally in the ganzfeld condition (or dream condition). It is speculated also that a further reason for the poor results found on the present study, for both conditions, and also found on the Barrionuevo and Pallú study, conducted in Brazil and presented in chapter 3, might be related to the fact that until recently in Brazil, a Military Government was ruling the country having censorship as a common practice at that time (Ventura, 1968). Thus, it might be possible that a cultural influence from those days led some Brazilian participants to act with some reluctance to report their psi experiences in an experimental environment that involved a condition in which participants would stay in a small room knowing that everything they said was being tape-recorded during the experiment. As pointed out by Souza (2000), interrogation was common on the days of military ruling in Brazil, and basically, anyone suspicious could be taken for interrogation, that was probably conducted in small and close rooms with tape-recorders, and so on. The dream condition of this study had participants sleeping and dreaming at home, but having to bring their dream reports to the laboratory facilities for the judging session, located in the same small and closed room used for the ganzfeld judging session, where everything was being tape-recorded, so that might have influenced results as well, although perhaps not so much.

Comparison of the dream and ganzfeld experiments

It could be useful to compare the present study with the earlier ones which compared ganzfeld and dream (e.g., Kanthamani, Khilji & Rustomji-Kerns, 1988; Kanthamani & Khilji, 1990; Kanthamani & Broughton, 1992) in the preceding chapters.

To see if the effect size of the present study was significantly different from the effect sizes obtained in the previous three studies by other researchers (Kanthamani, Khilji & Rustomji-Kerns, 1988; Kanthamani & Khilji, 1990; Kanthamani & Broughton, 1992) I used the procedure recommended by Rosenthal and Rosnow (1991, pp. 500-501 - Appendix 17). The difference among the four effect sizes ($r = .59$, $r = .42$, $r = .63$, present study $r = .23$) was not significant, $X^2(df\ 3) = 3.91$, $p = .27(2t)$.

Content analyses

Dream reports' content analyses

As described in chapter 7, I conducted an exploratory analysis of the dream reports of male and female participants of this study applying the Hall and Van de Castle system of content analysis. Comparing this study's findings to the Hall and Van de Castle normative findings, it was found that only six categories out of twenty five presented similarities regarding male participants' dream reports: friends, animal, aggression/friendliness, friendliness, and good fortune. Similarities were defined as having similar frequencies within content categories or sub-categories. All the other male dream reports' categories showed different percentages from those of the Hall and Van de Castle norms. Regarding female participants' dream reports, only three

categories were consistent with the Hall and Van de Castle norms: dead & imaginary, aggression/friendliness, and dreams with at least one success. For the present study, male and female participants' dream reports did not replicate the Hall and Van de Castle norms. That discrepancy could have been produced by cultural differences between the Brazilian dreams' content and the norms. When our data was compared Krippner and Weinhold (2001) gender differences in the content of Brazilian participants in dream seminars' data, however, it was found that our sample for male and female participants differed greatly from Krippner and Weinhold's sample, having only one female dream category with similar frequency of content: dreams with at least one misfortune. Perhaps, the present study's dream sample differ from Krippner and Weinhold's dream sample since dream reports chosen for the Krippner and Weinhold's dream seminar, where dreams were expected to be analysed by Krippner, might have been different from participant's usual dreams because of having a special feature they liked to be explained or analysed by Krippner, but that is speculation.

The hypothesis that there would be gender differences regarding frequencies within content categories was confirmed. It was found statistically significant gender differences on eight out of twenty five content categories male and female participants' dream reports; statistically significant differences on ten content categories of male and female participants' ganzfeld mentation reports; and, statistically significant differences on seven content categories of male and female ganzfeld written reports.

The dream and ganzfeld experiences reports' content analysis

The majority of categories presented different frequencies within content categories between male and female participants' dream and ganzfeld imagery. As mentioned earlier, dream imagery appear to be qualitatively richer than the ganzfeld imagery, and that might be related to the issue discussed before, related to military ruling of the country in the past, where an environment like the ganzfeld would get participants reluctant to report their experiences, and so may be having poorer reports.

The dream and ganzfeld successful and unsuccessful reports' patterns

The results showed that a pattern was found between the female dream successful reports, the female ganzfeld mentation successful reports, and the female ganzfeld written successful reports. The pattern found was that dream, ganzfeld mentation, and ganzfeld written reports' 'hits' contained more reference of content to torso/anatomy (e.g., torso: shoulders, chest, abdomen, hips, etc.; anatomy, e.g. bony and visceral, skull, ribs, leg bone, secretions such as blood, saliva, etc.) than dream, ganzfeld, and ganzfeld reports 'misses'. Regarding unsuccessful reports, female dream reports, female ganzfeld mentation, and female ganzfeld written reports, showed a pattern having more references to male/female characters than for successful trials. Thus, when participants had fractional imagery (torso/anatomy category) that was related to successful reports, and when they had an imagery of an individual (male/female character), instead of parts of it, that was related to unsuccessful reports. And that support the literature's suggestions that undeveloped,

fractional, or vague imagery appear to be related to target correspondences (Milton, 1991).

Conclusion

Despite the elevated level of psi-related experiences reported by Brazilian in spontaneous cases, as presented earlier (Zangari & Machado, 1996), one would not necessarily expect to obtain so impressive results under the ganzfeld and dream controlled conditions. The reason of that is because these would be studies done under artificial condition so that might or might not mean that people would do better.

The Brazilian culture aggregates various religions and beliefs and that was thought to provide an interesting environment to conduct psi research. However, the overall result of the dream and the ganzfeld studies showed not to be significant. Nevertheless, one can not assume that variables or processes from life can be transferred to the laboratory as some things that work in life may not be able to exist in the laboratory because conditions change, lack of relevance, and so on. The main findings of this study regarding dream and ganzfeld experiments' results are that both failed to provide significant results, that a sheep-goat effect was found for both conditions, and that the null-hypothesis was confirmed suggesting psi might not exist after all, and, that content analysis appears to be a way of learning more about the psi process of both successful and unsuccessful trials.

One possibility to be considered regarding the impact from the present study findings on the literature would be that the ganzfeld experimental condition appears not to be the most appropriate technique to be used in countries which might

have suffer some kind of repression in their recent past. It is suggested that it might be not worthwhile to conduct ganzfeld experiments in countries such as Brazil, or even dream experiments where the judging part of it is conducted in small and close rooms. Instead, it is suggested that experimental conditions in Brazil might consider having participants tested in their own homes' environment and having the judging session conducted at the same place if possible. It appears to be the case that dream research would be appropriate to be conducted in Brazil if following that. In conclusion, it appears to be the case that it would be more appropriate to have different or adapted methodologies and experimental designs where cultural aspects are considered and participants may be able to feel less monitored during experimental trials. And it seems that, as seen for the dream and the ganzfeld content analysis, that content analysis is a valuable methodology to use in future parapsychological research. Finally, further and systematic research of the dream and ganzfeld conditions, and content analysis of reported experiences, are needed in order to enhance our knowledge about psi process in those conditions.

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Appendix 1

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- Alvarado & Zingrone (unpublished)
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Appendix 2

The Maimonides Dream Studies

- a- Ullman, M., S. Krippner, & S. Feldstein. (1966). Experimentally induced telepathic dreams: Two studies using EEG-REM monitoring technique. *International Journal of Neuropsychiatry*, 2, 420-437. (two series of experiments)
- b- Ullman, M.(1969). Telepathy and dreams. *Experimental Medicine & Surgery*, 27, 19-38. (two series of experiments)
- c- Ullman, M, S. Krippner, & A. Vaughan. (1973). *Dream telepathy*. New York: Macmillan. (four series of experiments)
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Appendix 3

The 28 Ganzfeld Studies Composing Honorton's 1985 Ganzfeld Meta-Analysis

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- n- Sargent, C. L.; Harley, T. A.; Lane, J. and Radcliffe, K. 1981. Ganzfeld psi-optimisation in relation to session duration. *Research in Parapsychology 1980*, p. 82-84. Metuchen, NJ: Scarecrow Press.

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Appendix 4

The Participant Information Form Questionnaire

Participant Questionnaire

Dear Participant:

The following questionnaire is only to be completed if you are interested in taking part in a parapsychology experiment. This would take place at the Koestler Parapsychology Unit at the University of Edinburgh, George Square. Our current work is exploring communication between two individuals who have no sensory contact with each other. More specifically, we are examining how one person may 'send' or convey information to another person, located in a distant room, by sole means of mental intention and willpower. A session lasts for approximately one hour, which includes a general discussion time. You would participate with a friend, or a relative, with whom you feel emotionally close. This person would need to complete the questionnaires also. After you return this questionnaire, we will contact you to find out with whom you would like to participate.

We are pleased that you have expressed an interest in taking a further part in our research. We would now like to gather some general information about you that will help us evaluate whether our current research project, or some future one, may be most suitable for you as a participant.

All the information you give us will be kept strictly confidential - no one except our researchers will be able to find out what responses you have given to any of the questions. In addition, please feel free to skip any question that you would prefer not to answer.

Thank you for your help with our work!

PARTICIPANT QUESTIONNAIRE

Name: _____

Address: _____

Phone:(work) _____ (home) _____

1. May we phone you at work? () Yes () No

2. Date of birth: _____

3. Place of birth: _____

4. Nationality: _____

5. If British, please specify which region: _____

6. If not British, please specify your nationality and, if not born in Britain, how long you have been residing here.

7. Nationality: _____ Length of residency: _____

8. Usual occupation: _____
9. Educational background and/or vocational training: _____
10. How did you come to contact the Koestler Research Unit?
(please tick and provide relevant information as appropriate)
- ☐ Recruitment poster (if so, where did you see it?) _____
- ☐ Learned of our work through the media
- ☐ Laboratory staff member (who?): _____
- ☐ Referred by a friend (who?): _____
- ☐ Other (please specify): _____

11. Some of our research would not require you to come to our lab in Edinburgh. However, for other work we would need to see you in person. Would you be able to participate in research conducted at our facilities in Edinburgh?

☐ Yes ☐ No

12. Would you be interested in and available for participation in a long-term research project (spanning several weeks or months)?

☐ Yes ☐ No

13. We will be conducting research aimed at examining many different aspects of psychic functioning. Please tick any of the following areas of our work in which you would be willing to participate (tick as many or as few as appropriate).

- ☐ Extrasensory perception (the gaining of knowledge about an external event and/or person)
- ☐ Psychokinesis (the influencing of an external event)
- ☐ Training and development of psychic abilities
- ☐ Sports psychology
- ☐ Psychology of deception
- ☐ Examination of a variety of mental skills (e.g., relaxation, concentration, etc.)

14. Have you ever participated in any formal laboratory parapsychological studies?

☐ Yes ☐ No

If yes: Where was this work conducted?: _____
Please describe the research: _____

15. Do you consider yourself to be:

☐ Left-handed ☐ Right-handed ☐ Ambidextrous

16. Are you an only child? ☐ Yes ☐ No

If no, where in the order of birth of the children in your family do you fit (e.g., 3rd of 5, or twins with one older sibling)? _____

If twins, are you: ☐ Fraternal ☐ Identical

17. Have you ever participated in any casual testing of parapsychological phenomena (e.g., card-guessing games with friends)? ☐ Yes ☐ No

If yes, please describe: _____

Note: Many of the following questions will be answered by ticking one of seven boxes to best describe your response to the question. The seven boxes should be used as a scale, with the two labelled end boxes each representing extreme answers on either end of the scale.

18. In general, how often do you experience notable coincidences? (please tick one box)

☐ Never ☐ Occasionally ☐ Frequently

19. If you do experience coincidences, do they appear to come in clusters, occur fairly regularly or occur irregularly?

☐ Irregularly ☐ Regularly ☐ Clusters

20. Are you aware of any special circumstances associated with your experience of coincidences? If so, please describe: _____

21. How often do you clearly recall the content of your dreams? (please tick one box)

☐ Never ☐ Once a week ☐ Almost everyday

22. To what degree do your dreams differ from your ordinary experience? (please tick one box)

☐ Not at all ☐ Very much

23. How often are you aware that you have dreamed without being able to recall the dream's content? (please tick one box)

☐ Rarely ☐ Once a week ☐ Almost everyday

24. Have you ever had a dream in which you were aware you were dreaming?

☐ Yes ☐ No

25. If you have had a dream in which you were aware you were dreaming, how often does this occur? (please tick one box)

☐ Rarely ☐ Once a week ☐ Almost everyday

26. How often do you daydream? (please tick one box)

☐ Rarely ☐ Daily ☐ Hourly

27. Using the numbers 1-4, please number the following themes of daydreams according to their frequency of occurrence (where 1 is the most frequently occurring theme and 4 is the least frequently occurring theme).

____ Past events in your life

____ Possible futures

____ Fantasy

____ Other (please specify) _____

28. Do you enjoy activities which require an involvement in fantasy? (please tick one box)
☐ Not at all ☐ Neutral ☐ Very much
29. How easy is it for you to create a mental image of a familiar scene? (please tick one box)
☐ Impossible ☐ Effortless
30. If you can create a mental image of a familiar scene, how clearly can you see the scene? (please tick one box)
☐ Not clear ☐ As clear as ☐ at all using normal vision
31. How well can you receive a sense of hearing, smelling, and/or tasting some component of a mentally imagined scene? (please tick one box)
☐ Not at all ☐ Very well
32. How often do you lose awareness of your surroundings when you get involved in an activity? (please tick one box)
☐ Never ☐ Half the time ☐ Always
33. How often do you lose your sense of time when you get involved in an activity? (please tick one box)
☐ Never ☐ Half the time ☐ Always
34. Do you believe that: (please tick one box)
☐ Things just happen to people ☐ People make things happen to themselves
35. How strongly do you believe in luck (with luck being defined as having things generally turn out well or badly due to chance or a fluke, as opposed to being especially earned)? (please tick one box)
☐ Don't Believe ☐ believe very strongly
36. Do you consider yourself to be a lucky person (using the definition of luck given in question 35)? (please tick one box)
☐ Very unlucky ☐ Very lucky
37. How frequently do you have accidents (please include minor mishaps)? (please tick one box)
☐ Never ☐ Weekly ☐ Daily
38. Do you enjoy situations which are riskier than other everyday situations? (see the list in question 39 for examples of such situations) (please tick one box)
☐ Don't like at all ☐ Neutral ☐ Like very much

39. Please tick those activities you enjoy (tick as many as you wish)

- ☐ Gambling
☐ Games of chance with no monetary risk
☐ Speaking or performing in public
☐ Physical activities involving risk

40. When you have an appointment or social engagement, are you usually: (please tick one box)

- ☐ Early ☐ On time ☐ Late

41. On the following scale, where would you place yourself? (please tick one box)

- ☐ Reserved ☐ Outgoing

42. On the following scale, where would you place yourself? (please tick one box)

- ☐ Not competitive ☐ Highly competitive

43. Have you played video games?

- ☐ If yes, do you generally enjoy them? ☐ Yes ☐ No

44. If you have not played video games, would you like to?

- ☐ Yes ☐ No ☐ Uncertain

45. Do you use a computer? (please tick one box)

- ☐ Never ☐ At least weekly ☐ Everyday

46. With regard to your computer expertise, where on the following scale would you place yourself? (please tick one box)

- ☐ Sophisticated user ☐ Complete novice

47. Would you feel comfortable using a computer in a parapsychological study?

- ☐ Yes ☐ No ☐ Uncertain

48. How would you rate the way machines (cars, computers, cameras, kitchen appliances, watches, TVs, etc.) usually perform for you? (please tick one box)

- ☐ Always braking down ☐ Require average servicing ☐ Rarely ever have problems

49. If machines tend to break down more often than one would expect, list the type of machines with which you have had particular problems: _____

50. Do you get regular physical exercise?

- ☐ Yes ☐ No

If yes, approximately how many hours of exercise do you get per week?: _____

51. Tick the kind(s) of exercise you get:

☐ Running/jogging

☐ Aerobics/calisthenics

☐ Weight training

☐ Team sports

☐ Walking

☐ Swimming

☐ Other (please specify) _____

52. Have you ever felt that while exercising you were operating on a different level from that which you normally experience (e.g., seeing things in slow motion, one's actions seem effortless, etc.)? (please tick one box)

☐ Never

☐ Occasionally

☐ Frequently

53. Have you ever practised any form of mental discipline/exercise, e.g., meditation, biofeedback, hypnosis, relaxation exercises? ☐ Yes ☐ No

If yes, what kind: _____

If yes, did you practice consistently or sporadically?

☐ Consistently

☐ Sporadically

If yes, do you still practice: (please tick one box)

☐ Never

☐ Weekly

☐ Daily

54. Have you ever studied any physical and/or spiritual regimen such as hatha yoga, tai chi, aikido, etc?

☐ Never

☐ Weekly

☐ Daily

If yes, what kind?: _____

If yes, do you still practice: (please tick one box)

☐ Never

☐ Weekly

☐ Daily

55. Have you ever taken part in a formal self-improvement program such as TM, psychotherapy, etc.? ☐ Yes ☐ No

If yes, please specify the program: _____

56. Do you have regular sleep habits?

☐ Yes

☐ No

☐ Uncertain

57. On the average, how many hours a night do you sleep? _____

58. Do you usually feel you get enough sleep? ☐ Yes

☐ No

59. Occasionally our research might require our having some information about various medical problems. Please tick any of the following of which you have had experience in the indicated period:

	Currently	1-5 years ago	More than 5 years ago
Epilepsy			
grand mal	()	()	()
petit mal	()	()	()
Heart Trouble	()	()	()
Mental Disorder	()	()	()
Loss of Hearing	()	()	()
Poor Eyesight	()	()	()
Colour-blindness	()	()	()
High Blood Pressure	()	()	()

Please use the following definitions for the purpose of answering the next 17 questions.

PSI: Direct interactions between mental processes and the physical world or other mental processes occurring outside currently understood channels. Thus this is a 'blanket' term used to refer to all paranormal processes and causation.

PSI is commonly divided into two categories:

1. EXTRASENSORY PERCEPTION (ESP): Reception of information without the use of known senses or logical inference.

ESP is for convenience further subdivided into three categories:

TELEPATHY: ESP of the thoughts, feelings or behaviour of another person or organism.

CLAIRVOYANCE: ESP of distant physical events or concealed objects.

PRECOGNITION: ESP of the future.

2. PSYCHOKINESIS (PK): Mental influence on the physical world.

60. What best describes your own psi ability? (please tick one box)

() I have psi ability () Uncertain () I have no psi ability

61. Is the existence of ESP: (please tick one box)

() Certain () Uncertain () Impossible

62. Have you ever had an experience which is best explained by telepathy? (please tick one box)

() Yes () Uncertain () No

63. Have you ever heard or read of an experience which is best explained by telepathy? (please tick one box)

() Yes () Uncertain () No

64. Have you ever had an experience which is best explained by clairvoyance? (please tick one box)

() Yes () Uncertain () No

65. Have you ever heard or read about an experience which is best explained by clairvoyance? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

66. Have you ever had an experience which is best explained by precognition? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

67. Have you ever heard or read about an experience which is best explained by precognition? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

68. If you have had an ESP experience(s), was the ESP information conveyed to you primarily (most commonly) by means of: (tick as many boxes as appropriate)

☐ A sense, feeling, intuition, or thought

☐ Seeing a vision of a figure or an object

☐ Internal mental imagery

If the experience consisted primarily of internal mental imagery, was the nature of the experience primarily: (tick as many boxes as appropriate)

☐ Visual

☐ Auditory

☐ Olfactory (a sense of smell/odour)

☐ Kinaesthetic (a physical sensation)

Other (please specify): _____

69. Is the existence of psychokinesis: (please tick one box)

☐ Certain

☐ Uncertain

☐ Impossible

70. Have you ever had an experience which is best explained by psychokinesis? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

71. Have you ever heard or read about an event which is best explained by psychokinesis? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

72. Were you raised in an environment where there is a tradition of paranormal ability which is still believed in to some degree (e.g., second sight in the Highlands)?

☐ Yes

☐ No

If yes, please specify the environment and the tradition: _____

73. Has any member of your family had paranormal experiences? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

74. Have you ever experienced a vision for which you could find no normal explanation? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

75. Have you ever had an experience in which you felt as if your consciousness was separated from your physical body? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

If yes, please briefly describe any notable surrounding circumstances: _____

76. Do you think that you might be able to be successful in a controlled laboratory experiment? (please tick one box)

☐ Yes

☐ Uncertain

☐ No

77. If you would like to describe any experiences you have had that possibly involved psi, please do so below (continue on the back of the sheet if more room is needed).

The Participant Information Form Questionnaire Translated to Portuguese

QUESTIONÁRIO AO PARTICIPANTE

Caro Participante

N: _____

Nos gostaríamos de expressar nossa satisfação pelo interesse demonstrado por você em participar de nossa pesquisa.

Toda informação fornecida por você através deste questionário, será mantida em sigilo, sendo que nenhuma pessoa senão os próprios pesquisadores, terão acesso a estes dados, a não ser que haja a sua prévia autorização.

Obrigado por nos ajudar com nossa pesquisa!

DADOS DO PARTICIPANTE

Nome: _____

Endereço: _____

Telefone

Residencial: _____ Comercial: _____

Podemos telefonar para você em seu trabalho? ☐ Sim ☐ Não

Sexo: ☐ Masculino ☐ Feminino

Data de Nascimento: _____

Local de Nascimento: _____

Nacionalidade: _____

Sendo brasileiro/a, especifique de que região do país: _____

Sendo estrangeiro/a, especifique sua nacionalidade e a quanto tempo você reside aqui:

Nacionalidade: _____ Tempo de residência: _____

Profissão: _____

Grau de Ensino e/ou treinamento vocacional: _____

Atenção: As questões seguintes deverão ser respondidas assinalando apenas um dos parênteses que melhor representar sua resposta.

Como você chegou a saber desta pesquisa?

☐ Através de anúncio em jornal

☐ Através de uma palestra

☐ Através de um amigo (Quem?) _____

☐ Outro (Favor especificar) _____

Você poderá participar de nossa pesquisa vindo às dependências da Unidade de Ciências Bio-psíquicas da FIES quando previamente combinado?

☐ Sim

☐ Não

Você alguma vez já participou de algum estudo laboratorial em Parapsicologia?

☐ Sim

☐ Não

Se sim: Em que laboratório? _____

E em que tipo de pesquisa? _____

Você se considera:

☐ Destro

☐ Canhoto

☐ Ambidestro

Você é filho único?

☐ Sim

☐ Não

Se respondeu não, em que ordem de nascimento você se encontra em sua família (exemplo, 3^o de 5 filhos, ou gêmeos com um irmão mais velho)? _____

Você tem irmão gêmeo? _____

Se sim vocês são: ☐ Fraternais ☐ Idênticos

Você alguma vez já participou de algum teste (casual) de algum fenômeno parapsicológico (exemplo, jogo de adivinhar cartas com amigos)?

☐ Sim

☐ Não

Se sim, favor descrever: _____

Atenção: Muitas das questões seguintes deverão ser respondidas assinalando apenas um dos sete parênteses que melhor representar sua resposta. As sete opções deverão ser percebidas como sendo uma escala de intensidade que deverá representar sua resposta.

Em geral, com que freqüência você experiencia coincidências notáveis? (favor preencher apenas um dos parênteses)

☐

☐

☐

☐

☐

☐

☐

Nunca

Ocasionalmente

Freqüentente

Se você experiencia algum tipo de coincidência, isto parece ocorrer em grupos, ocorrer bastante regularmente ou ocorrer irregularmente?

☐ ☐ ☐ ☐ ☐ ☐ ☐
Irregularmente Regularmente Em grupos

Você tem conhecimento de alguma circunstância especial associada com sua experiência referente a coincidências? Se sim, descreva por favor:

Com que frequência você recorda claramente do conteúdo de seus sonhos? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nunca Uma vez por semana Quase todo dia

Em que grau seus sonhos diferem de suas experiências cotidianas? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Não diferem Diferem muito

Com que frequência você tem consciência de que sonhou sem conseguir lembrar do conteúdo do seu sonho? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Raramente Uma vez por semana Quase todo dia

Você alguma vez já teve um sonho no qual estivesse consciente de estar sonhando? (favor preencher um dos parênteses) ☐ Sim ☐ Não

Se você teve um sonho no qual você estivesse consciente de estar sonhando, com que frequência isto ocorre? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Ocorreu apenas Uma vez por semana Quase todo dia
uma vez

Com que frequência você tem devaneios (sonho acordado)? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Ocorreu apenas Diariamente A cada hora
uma vez

Usando números de 1 a 4, favor numerar os temas seguintes de seus devaneios de acordo com sua frequência de ocorrência (sendo 1 o tema de ocorrência mais freqüente e 4 o tema de ocorrência menos freqüente)

____ Eventos passados de sua vida
____ Possíveis eventos futuros
____ Fantasia
____ Outros (favor especificar) _____

Você gosta de atividades que requerem um envolvimento com fantasia? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Não gosto Neutro Gosto muito

O quão fácil é para você criar uma imagem mental de uma cena conhecida? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Impossível Muito fácil

Se você consegue criar uma imagem mental conhecida, com que clareza você consegue ver esta cena? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nada claro Tão claro como
usar visão normal

O quanto você consegue receber um sentido de audição, olfação e ou gustação de um componente de uma imagem mental criada? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Não consigo Consigo muito bem

Com que frequência você perde a noção do que está se passando ao seu redor quando você está envolvido em alguma atividade? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nunca Parte do tempo Sempre

Com que frequência você perde a noção de tempo quando está envolvido em alguma atividade? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nunca Parte do tempo Sempre

Você acredita que: (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Coisas acontecem Pessoas fazem as
para as pessoas coisas acontecer

O quanto você acredita em sorte (sendo sorte definida como coisas que geralmente acabam bem ou que dificilmente são devidas a pura chance, opostamente a ser especialmente merecida)? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Não acredito Acredito muito

Você se considera uma pessoa de sorte (usando a definição de sorte da questão anterior)? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Sou muito azarado Sou muito sortudo

Com que frequência você sofre algum tipo de acidente (favor incluir pequenos acidentes)? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nunca Semanalmente Diariamente

Você gosta de situações que são mais arriscadas do que as do dia a dia (veja a lista da questão seguinte para exemplos)? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Não gosto Neutro Gosto muito

Favor preencher os parênteses das atividades que você gosta (favor preencher quantos desejar):

- ☐ Apostas
- ☐ Jogos envolvendo dinheiro sem risco monetário
- ☐ Falar ou representar em público
- ☐ Atividades físicas envolvendo riscos

Quando você tem hora marcada ou algum evento social, você está geralmente: (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Adiantado Na hora Atrasado

Na escala seguinte, onde você se colocaria? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Reservado Sociável

Na escala seguinte, onde você se colocaria? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Não competitivo Muito competitivo

Você joga vídeo game? ☐ Sim ☐ Não
Se sim, você geralmente gosta? ☐ Sim ☐ Não
Se você nunca jogou vídeo-game, você gostaria de jogar?

☐ Sim ☐ Não ☐ Incerto

Você usa computadores? (favor preencher um parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nunca Semanalmente Diariamente

Com respeito a conhecer computadores, onde você se colocaria na escala abaixo?
(favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Usuário sofisticado Completo leigo

Você se sentiria confortável em usar um computador em um estudo parapsicológico?
☐ Sim ☐ Não ☐ Incerto

Como você considera o funcionamento de máquinas (carros, computadores, equipamentos elétricos de cozinha, relógios, TVs, etc.) no seu dia a dia? (favor preencher um parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Sempre estragando Requerendo consertos Raramente apresentando
de manutenção apenas problemas

Se alguns equipamentos estragam mais do que o esperado por você, cite que tipos de equipamentos apresentam problemas para você: _____

Você pratica exercícios regularmente? ☐ Sim ☐ Não
Se sim, quantas horas por semana, aproximadamente? _____

Preencha os parênteses correspondentes aos tipos de exercício que você pratica:

☐ Cooper
☐ Treinamento de peso
☐ Caminhadas
☐ Aeróbica
☐ Esportes em grupo/times
☐ Natação
☐ Outros (favor especificar) _____

Você já sentiu alguma vez durante a prática de exercícios, um nível diferente de percepção, como ver coisas em câmera lenta, etc.? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nunca Ocasionalmente Freqüentemente

Você alguma vez já praticou alguma forma de disciplina mental, como meditação, hipnose, exercícios de relaxamento, etc.? ☐ Sim ☐ Não

Se sim, de que tipo? _____

Se sim, você costuma praticá-la regularmente ou esporadicamente?

☐ Regularmente ☐ Esporadicamente

E você ainda pratica? (favor preencher um dos parênteses)

☐ ☐ ☐ ☐ ☐ ☐ ☐
Nunca Semanalmente Diariamente

O que melhor descreve sua habilidade psi?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eu tenho			Incerto			Eu não tenho
habilidade psi						habilidade psi

É a existência da psi, na sua opinião: (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Certa			Incerta			Impossível

Você alguma vez já teve alguma experiência que melhor se explique por telepatia? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você alguma vez já leu ou ouviu algo sobre alguma experiência que melhor se explique por telepatia? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você alguma vez já teve alguma experiência que melhor se explique por clarividência? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você alguma vez já leu ou ouviu algo sobre alguma experiência que melhor se explique por clarividência? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você alguma vez já teve alguma experiência que melhor se explique por pre-cognição? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você alguma vez já leu ou ouviu algo sobre alguma experiência que melhor se explique por pre-cognição? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Se você teve alguma experiência ESP, a informação ESP foi transmitida a você principalmente através de: (favor preencher um dos parênteses)

- ☐ Um senso de sentir, intuir ou pensar
- ☐ Ter uma visão ou ver uma figura ou um objeto
- ☐ Imagens mentais internas

Se a experiência consistiu principalmente em imagens mentais internas, foi a natureza da experiência principalmente: (favor preencher um dos parênteses)

☐ Visual

☐ Auditiva

☐ Olfativa

☐ Cinestésica

☐ Outras (Favor especificar): _____

É a existência da psicocinesia: (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Certa			Incerta			Impossível

Você alguma vez já teve alguma experiência que melhor se explique por psicocinesia? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você alguma vez já leu ou ouviu alguma experiência que melhor se explique por psicocinesia? ? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você cresceu em um meio onde há uma tradição em habilidades psi, a qual ainda é acreditada de alguma forma?

☐ Sim ☐ Não

Se sim, favor especificar: _____

Algun membro de sua família já teve experiências psi? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você alguma vez já experienciou alguma visão não encontrando explicação normal para a mesma? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Você já teve alguma experiência onde você sentiu sua consciência separada de seu corpo físico? (favor preencher um dos parênteses)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sim			Incerto			Não

Se sim, descrever sucintamente: _____

Você acredita ser capaz de demonstrar habilidade psi em um experimento psi laboratorial controlado? (favor preencher um dos parênteses)

() () () () () ()
Sim Incerto Não

Incerto

Não

Se você desejar descrever alguma experiência que você tenha tido que envolva psi, favor utilizar o verso da folha:

Appendix 5

The Vividness of Visual Imagery Questionnaire

The following 4 questions are concerned with the vividness of visual imagery. Read each question and then close your eyes while you try visualizing the described scene. Observe then each item of the questions and follow the classification on the table provided to answer the questions. You must rate each answer using the numbers 1 to 5 as appropriate. Remember that your honest answer is very important for the validity of this study. Please verify if all the questions were answered.

Ratings	Descriptions
1	'perfectly clear and as vivid as normal vision'
2	'clear and reasonably vivid'
3	'moderately clear and vivid'
4	'vague and dim'
5	'no image at all, you only 'know' that you are thinking of the object'

For items 1 -4, think of some relative or friend whom you frequently see (but who is not with you at present) and considered carefully the picture that comes before your mind's eye.

Item

1. The exact contour of face, head, shoulders and body ()
2. Characteristic poses of head, attitudes of body, etc. ()
3. The precise carriage, length of step, etc., in walking ()
4. The different colours worn in some familiar clothes ()

Visualize a rising sun. Consider carefully the picture that comes before your mind's eye.

Item

5. The sun is rising above the horizon into a hazy sky ()
6. The sky clears and surroundings the sun with blueness ()
7. Clouds. A storm blows up, with flashes of lightning ()
8. A rainbow appears ()

Think of the front of a shop which you often go to. Consider the picture that comes before your mind's eye.

Item

9. The overall appearance of the shop from the opposite side of the road ()
10. A window display including colours, shapes and details of individual items for sale ()
11. You are near the entrance. The colour, shape and details of the door ()
12. You enter the shop and go to the counter. The counter assistant serves you. Money changes hands ()

Finally, think of a country, scene which involves trees, mountains and a lake. Consider the picture that comes before your mind's eye.

Item

- | | |
|--|-----|
| 13. The contours of the landscape | () |
| 14. The colour and shape of the trees | () |
| 15. The colour and shape of the lake | () |
| 16. A strong wind blows on the trees and on the lake causing waves | () |

The Vividness of Visual Imagery Questionnaire Translated to Portuguese

As 4 questões seguintes, dizem respeito a vivacidade de imagens visuais. Leia cada questão e então feche seus olhos enquanto você tenta visualizar a cena descrita. Observe então cada item referente as questões e baseie-se na tabela de classificação abaixo para preencher os parênteses com sua resposta. Para tanto, utilize os números de 1 a 5, conforme apropriado. Lembre-se de que sua resposta honesta é muito importante para a validade deste estudo. Favor verificar se todas as questões foram respondidas.

Classificação

Descrição

- | | |
|----|--|
| 1. | <i>Perfeitamente claro e vívido como visão normal.</i> |
| 2. | <i>Claro e razoavelmente vívido.</i> |
| 3. | <i>Moderadamente claro e vívido.</i> |
| 4. | <i>Vago e indistinto.</i> |
| 5. | <i>Nenhuma imagem tampouco, você somente 'sabe' que está pensando no objeto.</i> |

Para os itens abaixo, pense em algum parente ou amigo que você vê freqüentemente (mas que não está com você no momento) e considere cuidadosamente a gravura que aparece em sua mente. Preencha então os parênteses com a classifica que mais lhe convier.

Item

- | | |
|---|-----|
| O exato contorno da face, cabeça, ombros e corpo. | () |
| Postura característica da cabeça, atitudes do corpo, etc... | () |
| O movimento preciso, comprimento do passo, etc...quando andando. | () |
| As diferentes cores já desbotadas em algumas roupas que são familiares. | () |

Para os itens abaixo, visualize o Sol nascente e considere cuidadosamente a gravura que aparece em sua mente.

Item

- | | |
|---|-----|
| O Sol está nascendo acima do horizonte em um céu nublado. | () |
| O céu limpa e rodeia o Sol em azul. | () |
| Nuvens. Uma tempestade estoura, com clarões de raios. | () |
| Um arco-íris aparece. | () |

Para os itens abaixo, pense na parte frontal de uma loja a que você vai freqüentemente e considere a gravura que aparece em sua mente.

Item

A aparência global da loja vista do lado oposto da rua. ()

Uma janela exposta incluindo cores, formas e detalhes de itens individuais à venda. ()

Você está perto da entrada. A cor, forma e detalhes da porta. ()

Você entra na loja e vai ao balcão. A balconista o atende. ()

O dinheiro troca de mãos.

Para os itens abaixo, pense numa cena campestre que envolva árvores, montanhas e um lago e considere a gravura que aparece a sua mente.

Item

Os contornos da paisagem. ()

A cor e forma das árvores. ()

A cor e forma do lago. ()

Um vento forte que sopra nas árvores e no lago causando ondas. ()

Appendix 6

The Gordon Test of Visual Control

The questions are concerned with the case with which you can control or manipulate visual images. For some people this task is relatively easy and for others relatively hard. One subject who could not manipulate his imagery easily gave this illustration. He visualised a table, one of whose legs suddenly began to collapse. He then tried to visualize another table with four solid legs, but found it impossible. The image of the first table with its collapsing leg persisted. Another subject reported that when he visualised a table the image was rather vague and dim. He could visualize it briefly but it was difficult to retain by any voluntary effort. In both these illustrations the subjects had difficulty in controlling or manipulating their visual imagery. It is perhaps important to emphasise that these experiences are in no way abnormal and are as often reported as the controllable type of image.

Read each question, then close your eyes while you try to visualize the scene described. Record your answer by underlining 'Yes', 'No' or 'Unsure', whichever is the most appropriate. Remember that your accurate and honest answer to these questions is most important for the validity of this study. If you have any doubts at all regarding the answer to a question, underline 'Unsure'. Please be certain that you answer that you answer each of the twelve questions.

- | | | | |
|--|---------|--------|---------------|
| Can you see a car standing in the road in front of a house? | () Yes | () No | () Uncertain |
| Can you see it in colour? | () Yes | () No | () Uncertain |
| Can you now see it in a different colour? | () Yes | () No | () Uncertain |
| Can you now see the same car lying upside down? | () Yes | () No | () Uncertain |
| Can you now see the same car back on its four wheels again? | () Yes | () No | () Uncertain |
| Can you see the car running along the road? | () Yes | () No | () Uncertain |
| Can you see it climb up a very steep hill? | () Yes | () No | () Uncertain |
| Can you see it climb over the top? | () Yes | () No | () Uncertain |
| Can you see it get out of control and crash through a house? | () Yes | () No | () Uncertain |

Can you now see the same car running
along the road with a handsome couple
inside? () Yes () No () Uncertain

Can you see the car cross a bridge and
fall over the side into the stream below? () Yes () No () Uncertain

Can you see the car all old and dismantled
in a car-cemetery? () Yes () No () Uncertain

The Gordon Test of Visual Control Translated to Portuguese

As 12 questões seguintes, dizem respeito a facilidade com que você consegue controlar ou manipular imagens visuais. Para algumas pessoas esta tarefa é relativamente fácil e, para outras, relativamente difícil. Um pessoa que não consegue controlar ou manipular suas imagens visuais nos deu o seguinte exemplo: ela visualizou uma mesa, uma das pernas da mesa começou a desaparecer. Ela tentou então visualizar uma outra mesa com pernas sólidas, mas achou impossível pois a imagem da primeira mesa, com a perna desaparecendo, continuou persistindo. É importante enfatizar que esta experiência não é de nenhuma forma anormal sendo tão relatada quanto as de pessoas que conseguem controlar imagens visuais.

Instruções referentes as questões: Leia cada questão e então feche seus olhos enquanto você tenta visualizar a cena descrita. Anote sua resposta colocando um 'X' no parênteses mais apropriado ('Sim', 'Não' ou 'Incerto'). Lembre-se de que sua resposta honesta é muito importante para a validade deste estudo. Se você tiver alguma dúvida referente as respostas das perguntas, coloque um 'X' no parênteses 'Incerto'. Favor verificar se todas as questões foram respondidas.

Você consegue ver um carro parado na rua em frente a uma casa?	Sim () Não () Incerto ()
Você consegue vê-lo em cores?	Sim () Não () Incerto ()
Você consegue agora vê-lo em outra cor?	Sim () Não () Incerto ()
Você consegue agora ver o mesmo carro de ponta cabeça?	Sim () Não () Incerto ()
Você consegue agora ver o mesmo carro novamente sobre as quatro rodas?	Sim () Não () Incerto ()
Você consegue ver o carro correndo ao longo da rua?	Sim () Não () Incerto ()
Você consegue ver o carro subindo uma montanha bem íngreme?	Sim () Não () Incerto ()
Você consegue ver o carro subir até o topo?	Sim () Não () Incerto ()
Você consegue ver o carro perdendo o controle e batendo contra uma casa?	Sim () Não () Incerto ()
Você consegue agora ver o mesmo carro correndo ao longo da rua com um bonito casal dentro dele?	Sim () Não () Incerto ()
Você consegue ver o carro atravessar uma ponte	

e cair no riacho abaixo desta?
Você consegue ver o mesmo carro já velho e
desmanchado em um ferro-velho?

Sim () Não () Incerto ()

Sim () Não () Incerto ()

Appendix 7

The Ganzfeld General Imagery Characteristics Questionnaire

Experimental Questions *Ganzfeld*

Receiver..... M/F
Sender.....M/F
Date...../...../.....
Experimenter.....M/F
Series.....
Trial.....

Part.....

BEFORE viewing target pool and AFTER reviewing mentation, please have Receiver answer these questions:

General Imagery Characteristics

1. Were there any images that seemed to be surprising to you during the ganzfeld experiment?
2. Did any images seem more vivid, clear, sharp, unusual, or stand out more than any of the others?
3. Did it seem that there was a lot (an abundance) of imagery during the ganzfeld state?
4. Does it seem to the Receiver that a theme throughout the imagery, or that a particular, or persistent, kind of imagery came up frequently during the ganzfeld?
5. On a scale of 1 to 10, with 1 being the everyday waking state, and 10 being a very deeply relaxed altered state, how deep into an relaxed altered state you feel you got?
6. How physically relaxed are you feeling right now?
7. How would you characterise your mental activity during the ganzfeld?
() structured, rational, direct () spontaneous, strange, dream like
8. How much did you enjoy participating in this experiment (which involves an artificial environment and condition)?
() didn't like () neutral () like very much
9. Why?

The Ganzfeld General Imagery Characteristics Translated to Portuguese

Questões Experimentais *Ganzfeld*

Participante.....

Data...../...../.....

Experimento número.....

Perguntar ao participante estas questões antes deste ver os alvos e depois de revisar a mentação: Características gerais de imagem:

1. Houve alguma imagem(s) que surpreendeu você durante este experimento?
2. Houve alguma imagem(s) que pareceu mais vívida, mais clara, definida, não usual ou que se destacou mais do que as outras?
3. Houve uma quantidade muito grande de imagens durante o estado ganzfeld?
4. Pareceu a você que algum tema persistente representado por imagens ou alguma imagem persistente em particular ocorreu durante o experimento ganzfeld?
5. Numa escala de 1 a 10, sendo 1 equivalente ao estado de vigília do dia a dia, e 10 equivalente a um estado alterado de consciência de relaxamento profundo, o quanto você atingiu deste estado de relaxamento profundo?
6. O quão relaxado fisicamente você se sente neste momento?
7. Como você caracterizaria a sua atividade mental durante o estado ganzfeld?
() estruturada, racional, direta () espontânea, estranha, tipo sonho
8. O quanto você gostou de participar deste experimento (que envolve uma condição e ambiente artificial)?
() () ()
Não gostei Neutro Gostei muito
9. Por quê?

Appendix 8

The Dream General Imagery Characteristics Questionnaire

Experimental Questions *Dreams*

Receiver..... M/F Part.....
Sender.....M/F
Date...../...../.....
Experimenter.....M/F
Series.....
Trial.....

BEFORE viewing target pool and AFTER reviewing dream report, please have the participant answering these questions:

General Imagery Characteristics

1. Were there any images that seemed to be surprising to you during your dream?
2. Did any images seem more vivid, clear, sharp, unusual, or stand out more than any of the others?
3. Did it seem that there was a lot (an abundance) of imagery during your dream?
4. Does it seem to you that a theme throughout the imagery, or that a particular, or persistent, kind of imagery came up frequently during your dream?
5. What in your dream called for your attention?
6. Do you usually have dreams with this sort of content?
7. How much did you enjoy participating in this experiment (which involves a natural environment and condition)?
() didn't like () neutral () like very much
8. Why?

The Dream General Imagery Characteristics Translated to Portuguese

Questões Experimentais *Sonhos*

Participante..... Data...../...../.....
Experimento número.....

Perguntar ao participante estas questões depois do mesmo ter escrito o relato de sonho:

Características gerais de imagem:

1. Houve alguma imagem(s) que surpreendeu você durante o sonho?
2. Houve alguma imagem(s) que pareceu mais vívida, mais brilhante, clara, definida, não usual ou que se destacou mais do que as outras?
3. Houve uma quantidade muito grande de imagens durante o seu sonho?
4. Pareceu a você que algum tema persistente representado por imagens ou alguma imagem persistente em particular ocorreu durante o seu sonho?
5. O que mais lhe chamou a atenção em seu sonho?
6. Você costuma, geralmente, ter sonhos com este tipo de conteúdo?
7. O quanto você gostou de participar deste experimento (que envolve uma condição e ambiente natural)?

()	()	()
Não gostei	Neutro	Gostei muito
8. Por quê?

Appendix 9

The Consent Term

I, _____ declare through this form, that I understand the nature and objective of this study for which I volunteer to participate.

The explanation I receive explain this study as a parapsychology study for the investigation of the possibility of existence of forms of communication between organisms and environment beyond those presently understood and known by science, as for instance, clairvoyance. Clairvoyance is the perception of facts and phenomena of the physical world independent of the normal senses (e.g., vision, audition, touch, taste and smell).

I am also aware that I am free to stop my participation in this study at any moment if I understand necessary.

Therefore, I agree to participate as a volunteer of this study independently of any remuneration.

Signature

ID n°: _____

Data/...../.....

The Consent Term Translated to Portuguese

TERMO DE CONSENTIMENTO LIVRE E ESCLARECIDO

Eu, _____ declaro através deste, ter compreendido a natureza e objetivo do estudo ao qual me voluntariei a participar.

A explicação que recebi esclarece este estudo parapsicológico como sendo direcionado a investigação da possibilidade da existência de formas de comunicação, entre organismos e seu meio-ambiente, além das conhecidas e entendidas pela ciência contemporânea como, por exemplo, a da Clarividência. Clarividência é a percepção direta dos fatos e fenômenos do mundo físico independentemente do uso dos sentidos fisiológicos normais (visão, audição, tato, olfato e gustação).

Também estou ciente de ser livre para interromper minha participação neste estudo a qualquer momento se assim julgar necessário.

Portanto, eu concordo voluntariamente em participar deste estudo, independentemente de qualquer forma de remuneração.

Assinatura _____

R.G. n°: _____

Data/...../.....

Appendix 10

The Retroactive Declaration

I, _____, as having agreed to participate of the study 'A study of participant's performance in free association ESP tasks in natural and artificial environments' conducted in the ganzfeld laboratory at the UNIBIO-FIES, declare that I return to my normal state of consciousness at the end of this experiment, which utilised a relaxation procedure in the beginning of the experiment.

Signature

R.G. n^o: _____

Data/...../.....

The Retroactive Declaration Translated to Portuguese

DECLARAÇÃO RETROATIVA

Eu, _____, tendo concordado em participar do estudo intitulado "Um estudo da performance de participantes em tarefas ESP de livre associação em ambiente natural e artificial", realizado no laboratório ganzfeld das dependências da UNIBIO-FIES, declaro ter retornado ao meu estado normal de consciência ao final deste experimento, que utilizou um procedimento de relaxamento leve em seu início.

Assinatura

R.G. n^o: _____

Data/...../.....

Appendix 11

The Judging Form

Participant.....M/F
Experimenter.....
Date...../...../.....
Experiment number.....
Target Rating Summary:
Title Participant Rating
1.....
2.....
3.....
4.....
End of the session Summary:
Target
Picture:.....
Rank Given to the Target: 1:..... 2:..... 3:..... 4:.....
Participant Signature:.....
Experimenter Signature:.....
Comentarios:.....
.....

The Judging Form Translated to Portuguese

Ficha de Julgamento

Participante.....M/F
Experimentador.....
Data...../...../.....
Experimento numero.....
Resumo da avaliacao dos alvos:
Titulo Avaliacao/Participante
1.....
2.....
3.....
4.....
Resumo do finalda sessao:
Alvo:.....
Ordem dada ao alvo pelo participante: 1:..... 2:..... 3:..... 4:.....
Assinatura do Participante:.....
Assinatura do Experimentador:.....
Comentarios:.....
.....
..

Appendix 12

Judging Instructions

Please take your time and examine each target picture, and then, when you feel you are ready, choose one that you think is the target for the session accordingly to the one that best matched the images experienced by you during your experimental experience, after choosing one of the pictures, write in the judging form where says Target, the name of the picture of your choice, followed by the second choice of your, the third and the fourth. After doing that, please sign the judging form.

Appendix 13

The Relaxation Tape Instructions

Welcome to the ganzfeld relaxation. From this moment on you will receive instructions to conduct you to a state of deep harmony and relaxation. When receiving these instructions try to follow them passively without thinking about them. Remember that they were criteriously elaborated to conduct you to a state of deep internal peace...

In the next minutes try to feel your body. Spend some time trying to find a comfortable position in the couch. If necessary, set free any clothes which are tight. Try to be as comfortable as possible...so that you can relax deeply...try to free yourself of future and past thoughts, try to focus on the present. Try to feel intensively every instant of this new experience. Set free the expectations, set free the memories, be concentrated right here right now...

Focus your attention to your feet...perceived how they are...and start relaxing them softly...Breathe deeply and calmly, and when releasing the air feel that your feet are relaxing as well...are relaxing, relaxing...setting free any tension...Breathe more and more deeply and while setting free the air...relax...set free...let your foot weight fall on the couch...repeat that for more five times while I count from 5 to 1, 5...4...3...2...1...feel how your feet are now and feel that this is restoring...

Start then to defuse this state to your legs. Breathe deeply...calmly and while releasing the air feel you legs free...light...relaxed...soft...Breathe...and...relax more and more your legs. The relaxed state of your feet now goes to your legs...Breathe and release the air relaxing more and more while I count from 5 to 1, 5...4...3...2...1...Feel a light energy circulating in your legs...Bring your attention now to your quadriceps...Breathe and release the air softly and calmly...relax you buttocks...the genital organs...setting free...setting free any tension of that region...Breathe deeply and...relax...let the weight of your body fall against the couch...set free... relax...relax...

I will count from 5 to 1 now and during that...relax more and more this region 5..4..3..2..1.. Feel this region totally relaxed...foot...legs...quadriceps...only one energy or sensation surrounds this area...lets go now to your arms and hands...bring your attention to them and in each breathe...deep and calm...feel them free...relaxed...relaxed...breathe...setting free the air and...relax...your fingers...hands...arms...relax them more and more...and while hearing my counting from 5 to 1, relax more and more deeply, 5..4..3..2..1..

The sensation of lightness is in almost all you body now. Lets feel that in your shoulders and neck...this is a region where normally we keep tensions...lets set them free...keep breathing deeply and while releasing the air feel that region being invaded by this feeling of relaxing and lightness. In each breathe relax...set free...relax...let your body fall on the couch...I will count from 5 to 1 and again in each counting breathe deeply and release the air feeling your shoulders and neck relaxing...setting free all the tension...5..4..3...2..1...

At this point your relaxation state is almost total...lets do it totally relaxing your scalp...nose...face...eyes...forehead...relax...set free any tension...relax...set free all the tensions of that regions...and of your own brain...feel this state of freedom and

emptiness...however stay conscious and awake...listening to my voice...I will count for the last time from 10 to 1, and while I do that relax more and more all your body at the same time...in each breathe relax...set free...relax all your body of any tension...feel it more relaxed as a whole...10..9..8..7..6..5..4..3..2..1...

Your state of relaxation now is total...and the feeling of peace is natural...feel this state of happiness and tranquillity... feel that this state is available for you at any time you want..to conduct you to a harmonious state of consciousness...feel intensively this sensation...this light.. which is you...your consciousness...remain in this state of deep peace... In some minutes you will hear a white noise, that in addition to the state you are is favourable to mental images appearance. Without loosing this state, while listening to the white noise, report all your feeling. images, sensations loudly.

Prior experiments have shown that the state of consciousness you achieved facilitates the acquisition of information through extra-sensory perception. Therefore, ask yourself to obtain the information referred to the target of this experiment. But ask yourself kindly without stress. Just ask yourself for that these information to come to your mind during the time you hear the white noise...after doing that....set free the expectations and start reporting loudly everything that comes to your mind, however calmly not to lose the relaxed state of consciousness you achieved. At the end of the white noise I will be again in contact with you.

Good Luck!

The Relaxation Tape Instructions Translated to Portuguese

Instruções da Fita de Relaxamento

Bem vindo ao relaxamento Ganzfeld. A partir de agora você passará a receber instruções que o conduzirão à um estado de profunda harmonia e tranqüilidade. Ao receber essas orientações procure segui-las passivamente sem pensar sobre elas. Lembre-se de que elas foram criteriosamente elaboradas para conduzi-lo à um estado de profunda paz interior...

Nos próximos momentos procure perceber como está o seu corpo. Dedique alguns instantes para encontrar uma posição de máximo conforto corporal. Se for preciso, solte qualquer roupa que esteja muito apertada. Procure ficar o mais confortável o possível... Para que você possa relaxar profundamente, procure liberar-se do futuro e do passado, procure focalizar sua consciência no presente. Procure viver intensamente cada instante dessa nova experiência. Solte as expectativas, solte as lembranças, esteja inteiro, concentrado aqui e agora!!! ...

Focalize então a sua atenção nos seus pés... Perceba como eles estão... e passe a relaxá-los suavemente. Respire profunda e calmamente... e quando soltar o ar sinta que seus pés vão se soltando também... vão afundando...amolecendo... liberando toda e qualquer tensão... Respire mais e mais profundamente e ao exalar... relaxe... solte... deixe todo o peso dos seus pés cair mais e mais sobre a maca... Faça isso por mais 5 vezes, enquanto eu conto de 5 a 1. 5... 4... 3... 2... 1... Perceba como seus pés estão agora e sinta que esse bem estar é restaurador...

Passe então a difundir esse estado para as sua pernas. Respire fundo...calma e tranqüilamente e ao expirar sinta suas pernas mais e mais soltas...leves... relaxadas...

descontraídas... moles.... Respire.... e.... relaxe mais e mais suas pernas. O estado de soltura de seus pés... agora flui para suas pernas... Respire e exale relaxando-as mais e mais enquanto eu conto de 5 a 1. 5... 4... 3... 2... 1... Sinta uma suave energia ou sensação circular nas suas pernas e pés... Leve agora essa sensação para os seus quadris... Respirando e soltando o ar suave e calmamente... vá relaxando as nádegas... os órgãos genitais... soltando... amolecendo... liberando toda e qualquer tensão que possa estar situada nessa região... Respire profundamente e... relaxe... deixe todo o peso de seus quadris cair sobre a maca. Solte... amoleça.. libere... relaxe...

Eu contarei novamente de 5 a 1 e a cada contagem... relaxe mais e mais toda essa região. 5... 4... 3... 2... 1...

Passe a sentir essas três partes totalmente relaxadas... pés, pernas, quadris... uma única energia ou sensação circula nessas partes... Vamos conduzi-la agora para as suas mãos e braços... Volte a sua atenção para eles e a cada respiração... profunda e calma... sinta-os mais e mais livres...soltos... moles... relaxados. Respire.... solte o ar e... relaxe... seus dedos... palmas... pulsos... braços e antebraços... Amoleça-os mais e mais... deixe-os cair totalmente sobre a maca... e... ao ouvir a minha contagem de 5 a 1, relaxe-os mais e mais... profundamente... 5... 4... 3...2... 1...

A sensação de leveza, entorpecimento ou formigamento, já está em quase todo o seu corpo agora. Vamos senti-la então nos seus ombros e pescoço. Essa é uma região onde normalmente guardamos tensões. Vamos soltá-las todas. Continue a respirar profundamente e ao exalar sinta essa região sendo invadida por essa sensação de entorpecimento ou soltura que está circulando no resto do seu corpo. A cada respiração relaxe... solte... amoleça...descontraia... libere... deixe cair o peso... contarei de 5 a 1 e novamente a cada contagem e respiração profunda, sinta seus ombros e pescoço relaxar, amolecer, liberar toda a tenção... 5... 4... 3... 2... 1...

Neste momento o seu estado de relaxamento é quase total... vamos torná-lo total... relaxando a nuca... couro cabeludo... maxilar... nariz... face...olhos... testa... relaxe... solte... amoleça... libere todas as tenções dessas regiões e também... do seu próprio cérebro... sinta esse estado de soltura e vazio invadindo-o.... porém permaneça consciente e com lucidez...ouvindo a minha voz... Eu contarei pela última vez... agora de 10 a 1, enquanto você relaxa mais e mais profundamente todo o seu corpo de uma só vez. A cada respiração relaxe... solte... liberte todo o seu corpo de qualquer tensão... sinta-o mais e mais harmonizado como um todo. 10... 9...

8... 7... 6... 5... 4... 3... 2... 1...

Seu estado de relaxamento agora é total... e o sentimento de paz neste estado é natural... Vivencie esse estado de suave alegria e contentamento, de tranquilidade e descontração. Sinta que esse estado está sempre a sua disposição... para conduzi-lo à um nível de consciência expandido... livre...luminoso... harmonioso... Viva intensamente essa liberdade... essa luz...que é você.... que é a sua consciência.... Permaneça neste estado... de paz profunda...

Em alguns momentos você estará ouvindo um chiado branco e brando, que, somado ao estado que você se encontra, será altamente favorável ao aparecimento de imagens mentais. Sem sair desse estado de paz, quando você ouvir o chiado branco, passe a relatar em voz alta todas as sensações, imagens, pensamentos e sentimentos que lhe ocorrerem.

Experimentos anteriores mostraram que este estado que você se encontra facilita a obtenção de informações através da percepção extra sensorial. Portanto, peça gentilmente a si mesmo para obter as informações referentes ao alvo deste experimento. Mas faça isso de forma tranquila e carinhosa sem exercer nenhum esforço ou cobrança. Apenas peça a si mesmo com muita gentileza para que essas informações apareçam ao longo do tempo que você ouvirá o chiado branco.... Após fazer essa suave solicitação... solte todas, todas as expectativas possíveis e então comece a Relatar verbalmente tudo o que lhe vier a mente, porém de forma muito calma, lenta e pausada, para não sair desse estado de paz e tranquilidade que você se encontra. Ao final do chiado branco eu estarei novamente em contato com você. Boa sorte.

The Hall/Van de Castle Content Analysis Coding

The Classification and Coding of Characters

Characters - people, animals, and mythical figures - are present in most dream reports and the chief character in almost every dream is the dreamer. Because characters are usually so central to all else that appears or happens in a dream narrative, it is appropriate to start our discussion of the coding system with them.

Because the dreamer is such a constant factor in almost every dream, he or she is not listed as a character or coded among the classes of characters listed below. To include the dreamer would be redundant. It should be pointed out, however, that in subsequent sections the dreamer's emotions and interactions with other characters and with the environment are always categorized and coded. Consequently, the dreamer is given a coding symbol, which is D.

Definition of a Character

Character, as already mentioned, consist of people, animals, or mythological figures. They are coded as characters, meaning they are categorized or classified, when any one of the conditions set forth below can be satisfied. It should be kept in mind that the term character is used to refer both to an individual person or animal and to a group of such individuals. A couple or a crowd is therefore called a character. In the examples that are included to help make each coding rule more understandable, capital letters are used to indicate codeable items, and italics are used for non-codeable items. However, neither capitals nor italics will be used to designate the dreamer.

1. The character is described as being physically present in the dream.

Examples:

'I met a GIRLFRIEND for lunch.'

'My Father drove me and my BROTHER to school.'

2. The character is heard or seen by some form of communication, but he or she is not physically present in the dream.

Examples:

'I spoke with my WIFE on the telephone.'

'LOWELL THOMAS was giving the news on the radio'

3. The character is mentioned in the dream report.

Examples:

'The POLICE were supposed to come'

'My FRIENDS were going to meet me at the station'

4. A character is referred to in order to establish the ownership of an object or the relationship of the character to another character.

Examples:

'I went into my BROTHERS room'

'my FAMILY'S car is a blue Ford'

5. A part of the character appears in the dreams.

Examples:

'I just saw the legs of the BAND MEMBERS marching down the street'

‘The head of DONALD DUCK was sticking out the bag’

Do *not code* any of the following cases as characters.

1. A character is referred to in a generic sense.

Examples:

‘Everyone has a right to happiness’

‘I wonder if people believe in ghosts anymore’

2. A character is referred to in order to establish that it is not that character but another character.

Examples:

‘I was with another BOY, not my boyfriend’

‘It was my OLDER SISTER, not my younger one’

3. A character is *not mentioned* in the dream report, but his or her presence is implied by the action that is described.

Example:

‘I heard guns being fired’

‘My car was run into by another car’

Classes of Characters

After the characters of a dream have been determined using the foregoing criteria, each codeable character, except animal characters, is classified under each of the four following headings:

1. Number
2. Gender
3. Identity
4. Age

The order of these headings is from the more general to the more specific, and the coding system for characters used throughout this book always appears in the following sequence: Number, Gender, Identity, and Age.

Number

Number refers to whether a single individual or a group of characters is involved. There may be any number from two to a very large number in a group, but no distinction is made in this coding system between groups of different sizes.

1. An individual character is one who is described in the dream report as being a separate and distinct entity. This ordinary means that he or she is described as doing something or being somebody or having certain characteristics that set him apart from others.

Examples:

‘The CLERK showed a pair of shoes’

‘I asked my teacher if I could speak to my GIRLFRIEND’

2. A group consists of two or more individuals who are not individually identified or distinguished.

Examples:

‘I went home to visit my PARENTS’

‘THREE BOYS whistled at me’

The coding symbol for an individual character is 1; for a group, the coding symbol is 2.

Animals are classified as individuals or groups, but they are not classified by Gender, Identity, or Age. (Coding symbol: 1ANI for a single animal; 2ANI for a group of animals.)

Gender

In addition to the two gender subclasses of male and female, there has to be a subclass for groups made up of both genders and a subclass for characters whose gender is not known by the dreamer or whose gender is not clearly identified in the dream report.

1. Male (Coding symbol M). Classify as Male any character identified as being male, or for whom the masculine pronoun is used, or whose role is typically a male one.

Examples

“The MAN spoke to me”

“HE was coming closer and closer and then I awoke”

2. Female (Coding symbol F). Classify as Female any character identified as being female, or from whom the feminine pronoun is used, or whose role is typically a female one.

Examples

“This GIRL threw me a towel”

“My teacher gave me an angry look, and then SHE asked me to leave the room”.

If a character changes gender in the course of a dream, classify the character as both Male and Female. See below under Metamorphoses for a description of such changes and how to treat them.

3. Joint Gender Group (Coding symbol J). Classify a group as Joint Gender Group when the group is described as being made up of both males and females or when the group is known by its nature to consist of both genders, or when the group is a large one so that it might be expected to include members of both genders.

Examples

“There were both MEN and WOMEN in the audience”

“My PARENTS asked me where I was going”

4. Indefinite Gender (Coding symbol I). Classify as Indefinite Gender any character or small group whose gender is not identified in the dream report. Classify also as Indefinite Gender any character who is identified by occupational role alone, when that occupational role may be either a masculine or feminine one.

Examples

“SOMEONE hurried by me”

“There were a FEW OTHER PEOPLE in the room”

Identity

There are eight subclasses of identity. These subclasses are arranged below in a hierarchical order decreasing familiarity to the dreamer. If a character can be assigned to more than one identity subclass, he or she should always be coded for the subclass indicating the greater familiarity; for example, “my family doctor” is coded as Know (subclass 3) rather than Occupational (subclass 5).

1. Immediate family members of the dreamer. Table A.1, containing relevant coding symbols, is inclusive.

2. Relatives of the dreamer (Coding symbol R). These are characters other than immediate family members who are related to the dreamer by blood, marriage, or adoption. The list Table A.2 is illustrative and not exhaustive.

3. Known characters (Coding symbol K). If it seems clear that the dreamer is currently, or was formerly, personally acquainted with a character or the probability seems very high that the dreamer could, if requested to do so, identify by name a character in his or her dream, the character is coded as known. If a large majority of a group consist of familiar characters, code the group as Known.

Example

“My ROOMMATE cut her hand”

“The BOY who lives next door came over”

4. Prominent persons (Coding symbol P). Score as Prominent any character who is well known by her or his general reputation but who is not known personally by the dreamer. Fictional, dramatic, imaginary, and supernatural figures are also coded under this heading as they are also coded under this heading as they are usually familiar because of their reputation. (See additional coding rule 7 for the coding of fictional, dramatic, imaginary, and supernatural characters)

Table A.1 Immediate Family Members

Father (F)	Husband (H)	Child (C)
Mother (M)	Wife (W)	Infant or baby (I)
Parents (X)	Son (A)	Family member (Y)
Brother (B)	Daughter (D)	
Sister (T)		

Table A.2 Relatives

Grandmother	Nephew	Stepmother
Grandfather	Niece	Foster father
Aunt	Cousin	Ex-husband
Uncle	Brother-in-law	Half-brother

Examples

“I saw WINSTON CHURCHILL sitting at the end of the table”

“It was like I was seeing a cartoon strip with ORPHAN ANNIE in it”

5. Occupational identification (Coding symbol O). Any character whose occupation is designed but who is not otherwise identified by the dreamer as being more familiar is coded as Occupational. Occupational includes not only vocations such as stamp collector, golfer, and hunters, as well as illegal or non-sanctioned pursuits such as gangster and prostitute. A student at any educational level who is not otherwise identified as being more familiar is coded O.

Examples

“The WAITRESS asked me what I wanted to eat”

“The ARMY OFFICER pointed his gun at the SOLDIER”

6. Ethnic, nationality , and regional identifications (Coding symbol E). These are characters whose race, nationality, or regional identification is designated but who are not otherwise identified as being more familiar by the dreamer.

Examples

“I was being tortured by INDIANS”

“I dreamed I was living with a GERMAN FAMILY”

7. Strangers (Coding symbol S). A character is considered a stranger if the dreamer specially indicates that the character is unknown or unfamiliar or his identity remains hidden because the character is faceless or wearing a mask. If from the language used in the dream report, the probability seems very high that this is the first time that the dreamer has become acquainted with the character, the character is coded as a Stranger. A crowd, unless otherwise being identified as more familiar, is coded as a group of Strangers.

Examples

"There was a little BOY I had never seen before"

"I was being chased by some mean-looking MEN"

8. Uncertain identity (Coding symbol U). The dream report frequently does not contain sufficient information as to whether a character is known or a stranger to the dreamer. When degree of familiarity cannot be established, the character is coded as Uncertain. This coding is also used when the character is described as known in the dream but this character cannot be identified later by the dreamer when he or she is reporting the dream.

Examples

"I was with a bunch of KIDS of my age"

"SOMEONE asked me if I were going to the meeting"

Age

There are four age groups. These are arranged below in order of decreasing chronological age.

1. Adult (Coding symbol A). All characters are coded as Adults unless they meet the requirements for inclusion in one of the other three age groups.

2. Teenager (Coding symbol T). Any character whose age is indicated as being from 13 through 17 or who from the content of the dream report appears to be an adolescent should be included in this age group. All high school students, whether of junior or senior level, are coded as Teenagers. All college students are coded as Adults. The use of such terms as "kid", "youth", "boy" or "girl" does not itself identify a character as a teenager, since these terms are also used in referring to other age groups. The decision as to how to classify characters referred to by these terms has to depend on the context in which they are used. Friends and acquaintances of teenagers are presumed to be teenagers unless otherwise stated.

3. Child (Coding symbol C). Any character whose age is from through 12 or who is referred to as a child is included in this age group. Any elementary school pupil is coded as a Child.

4. Baby (Coding symbol B). A character who is less than 1 year old or who is referred to as infant or baby is coded Baby, except when the word "baby" is used as a term of endearment or one of reproach for a character who is older than 1 year.

Coding the Characters

The procedure for coding characters is illustrated in this section. In actual practice, the characters in a dream report are classified and coded at the same time. The order of coding is Number, Gender, Identity, and Age. It will be recalled that italics are used below for all individuals except the dreamer who should not be coded as a character.

Examples

“My FATHER (1MFA) and MOTHER (1FMA) were in the AUDIENCE (2JUA) when I sang one of COLE PORTER’S (1MPA) songs”.

“My TEENAGE BROTHER (1MBT) got the measles, so I couldn’t go out with my BOYFRIEND (1MKA)”.

“A parade of SOLDIERS (2MOA) marched by and ONE OF THEM (1MOA) was riding a HORSE (1ANI) and ANOTHER (1MOA) was leading a pair of HORSES (2ANI)”.

Metamorphoses

Sometimes a character changes his or her sex, identity, or age in the course of the dream. It is also possible for a human being to change into an animal or vice-versa. When this occurs, the character is coded in its original form and for the original form, and the numeral 8 is used for his changed form. These numerals precede the character’s coding symbol and appear in the same number column used to indicate whether an individual (1) or group (2) character is involved. If a character dies or a dead character comes to life, this is not coded as a metamorphosis.

Examples

“My GIRLFRIEND (7FKA) suddenly changed into my BOYFRIEND (8MKA)”.

“The MAN (7MUA) grew smaller and smaller until he was a CHILD (8MUC)”.

Additional Coding Rules

1. A character who makes several appearances in the same dream should be coded only once in each dream.
2. If several characters are simply enumerated and the dreamer does not further describe the appearance or activities of any of these individual characters at any point in the dream, the enumerated characters are coded as a single group.

Examples

“My mother, father, brother, and sister (2jya) came to my graduation”.

“I was being chased by a lion, a tiger, and two snakes (2ANI)”.

3. If some, but not all, of the members of a group are distinguished with regard to appearance or activities as individuals, code as an individual character each of them who is so distinguished and code the remainder as a group.

Examples

“My whole FAMILY (2JYA), all 10 of us, were sitting around talking in the living room. My FATHER (1MFA) got up to fix the fire and then started to talk to my oldest BROTHER (1MBA), who gun to laugh”.

“A GROUP OF FIREMEN (2MOA) marched by ONE (1MOA) was very tall, and ONE OF THEM (1MOA) waved at me”.

4. If one or more small groups are differentiated out of a large group because of their appearance or activities, code both the small groups and the large group.

Example

“There was a big CROWD (2JUA) at the party. THREE soldiers (2MOA) were fooling around and began a fight with THREE SAILORS (2MOA).

5. If the dreamer says that a character might be either one person or another person, code for the first mentioned character unless the dreamer later resolves his or her uncertainty.

Example

“I wasn’t sure whether it was Mother (1FMA) or my wife”.

6. The numeral 3 is the coding symbol used to indicate individual dead character numeral 4 is the symbol for a group of dead character. These numerals appear in place of the numerals 1 or 2 which would have been employed if the characters were not dead. The numerals 3 or 4 are not used if a character dies during the dream.

Examples

“I cried as I saw my FATHER'S (3MFA) body in the coffin”.

“There were the corpses of SEVERAL YOUNG WOMEN (4FSA) whom I didn't know”.

7. The numeral 5 is the coding symbol used to indicate a single imagery character or one that is a fictional or dramatic portrayal; the numeral 6 is used to indicate group characters of this type. These numerals precede the character's coding symbol and appear in the same number column ordinarily used to indicate individual or group status. These numerals, therefore, appear in place of the numerals 1 or 2 which would have been employed if the characters were not imaginary.

Examples

“I was so surprised because in my dream I was going to a dance with SUPERMAN (5MPA)”.

“She was playing the part of QUEEN VICTORIA (5FPA)”.

8. Very infrequently, a character cannot be identified as either human or animal, or is referred to as a creature. In either case, code it as a Creature (Scoring symbol CZZ).

Example

“SOMETHING (1CZZ) was chasing me. I couldn't tell what it was”.

Summary of coding symbols

To obtain an overall view of the various coding symbols employed for characters, Table A3 should prove useful.

Table A3 Summary of Scoring Symbols for Characters

Number	Gender	Identity		Age
1. Individual	M: Male	F: Father	I: Infant	A: Adult
2. Group	F: Female	M: Mother	Y: Family member	T: Teenager
3. Individual dead	J: Joint	X: Parents	R: Relative	C: Child
4. Group dead	I: Indefinite	B: Brother	K: Known	B: Baby
5. Individual imaginary		T: Sister	P: Prominent	
6. Group imaginary		H: Husband	O: Occupational	
7. Original form		W: Wife	E: Ethnic	
8. Changed form		A: Son	S: Stranger	
		D: Daughter	U: Uncertain	
		C: Child		
		Miscellaneous		
		ANI: Animal		
		CZZ: Creature		

The Classification and Scoring of Social Interactions

In treating the social interactions present in dreams, we code three classes: aggressive, friendly, and sexual interactions. Coding procedures are identical for these three classes, and the same notational system is also followed for some of the

classes in the Activities classification that will be discussed in the next section. This section will deal only with social interactions.

Aggressive Interactions

The first of social interaction to be described is that of aggression. We code eight subclasses of aggression, which are numbered from 1 to 8. Those numbered from 1 to 4 involve various forms of non-physical aggression. Verbal remarks constitute the most frequent form of non-physical aggression, although on occasion, expressive behaviour may be used for the same purpose. Feelings of aggression that the character experiences but that do not reach any overt level of expression are also included within this grouping. The subclasses numbered from 5 to 8 involve various forms of physical aggression. Included are those acts where a character kills, hits, chases, or robs another character.

In all the subclasses that follow, except for A1, the situations involve a deliberate, intentional act on the part of one character to harm or annoy some other character. The classification of Misfortunes, which will be discussed in a later section, is used to handle those situations where injury, mishap, or adversity, occurs to a character through chance or environment circumstances over which it is impossible to exert personal control.

Subclasses of Aggressions

A8. An aggressive act that results in the death of a character.

Example

"I SQUASHED the bug with my foot"

A7. An aggressive act that involves an attempt to harm a character physically. The attempt may be carried out through personal assault or through use of a weapon. Threatening a character with a weapon is also included in this subclass.

Example

"I SLAPPED him in the face"

A6. An aggressive act that involves a character being chased, captured, confined or physically coerced into performing some act.

Example

"The little baby had been KIDNAPPED by someone"

A5. An aggressive act that involves the theft or destruction of possessions belonging to a character.

Example

"My room was all messes up, and the TV WAS MISSING"

A4. An aggressive act in which a serious accusation or verbal threat of harm is made against a character.

Example

"This old lady kept SHOUTING THAT I WAS THE MAN THE POLICE WERE LOOKING FOR".

A3. This subclass covers all situations where there is an attempt by one character to reject, exploit, control, or verbally coerce another character. Such activity may be expressed through dismissals, demands, refusals, disobedience, or any other type of negativistic or deceitful behaviour.

Example

"My boyfriend from back home sent me a letter saying that HE WASN'T GOING TO WRITE ME ANYMORE"

A2. Aggression displayed through verbal or expressive activity. Included are such activities as one character yelling or swearing at another or when a character criticises or scowls at another.

Example

"I could hear the couple next door ARGUING"

A1. Covert feeling of hostility or anger without any overt expression of aggression.

Example

"I KEPT GETTING MADDER AND MADDER at him BUT NEVER SAID ANYTHING".

Terminology Employed for Aggressive Interactions

For an aggressive act to occur one character usually initiates the activity and another character has this aggressive activity directed against him or her. The character who initiates the aggression is called the aggressor, and the person who is the recipient of the aggression is called the victim. If the victim responds with any type of counter-aggression, it is called a reciprocated aggression. In those cases where no aggressor or victim can be clearly identified because the characters are engaging in the same aggressive activity at the same time, the interaction is called a mutual aggression.

As the preceding section mentions, the dreamer is not listed as a character because he or she is present in virtually every dream. The dreamer is coded (Coding symbol D) for interactions, however, because he or she is a participant in many of them. Aggression in which the dreamer is not a participant are called witnessed aggressions. When a character aggresses against himself or herself, this is called a self-directed aggression.

Procedure for Coding Aggressive Interactions

In the examples given below, the coding symbol for the aggressor is written first. The type of aggression displayed by the aggressor is then indicated by placing the number of the appropriate subclass after the coding symbol for the aggressor. This is followed by a "sideboard V" (>) pointing toward the coding symbol for the character who is the victim. Reciprocated aggressions are designated by placing the letter R after the aggressive subclass number rather than a sideboard V. Mutual aggressions are indicated by an "equal" (=) sign. If more than one character is involved, either as aggressor as victim, the coding symbols for the characters are joined by plus (+) signs. Self-directed aggressions are denoted by placing an asterisk (*) after the number of the aggressive subclass.

Examples

"I HIT my brother with all my might on the head".

D 7 > 1MBA

"This fellow and I started to TRADE PUNCHES".

1FKA 2 > D

"I SAID that I WAS A LOUSY DANCER".

D 2*

Coding Rules

1. It is considered an aggressive act even though the aggressor may be a sanctioned agent of punishment or professionally employed for such a purpose.

Example

"My 9-year-old cousin Tommy was BEING SPANKED BY HIS MOTHER".

1FRA 7 > 1MRC

2. Criticism of a character's possessions is treated as criticism of the character himself or herself.

Example

"My sister said that MY NEW FORMAL LOOKED VERY UNATTRACTIVE".

3. If the aggressor or the victim is unknown, use a Q to indicate this lack of identification.

Example

"The nineties REFUSED to go to work"

4. If there is a continued sequence of aggressive acts between the same aggressor and victim and these acts are identical as to the subclass of aggression involved, only one aggression is coded.

Example

"This big sailor PUSHED the little sailor, then began hitting him, and after he had knocked him down, he began to kick him"

1MOA 7 > 1MOA

5. If more than one aggressive act takes place between the same aggressor and victim, code each aggression where a different subclass of aggressions occur and indicate this linkage by placing a { mark in front of the linked aggressive interactions.

Example

"This wild-looking fellow came out of the alley and approached my boyfriend, Sam, and me. He CALLED SAM YELLOW, then he said he WAS GOING TO CALL HIS GANG TO TAKE CARE OF SAM. We didn't say or do anything, and then he TOOK A KNIFE AND STARTED TOWARD Sam"

{1MSA 2 > 1MKA

{1MSA 4 > 1MKA

{1MSA 7 > 1MKA

6. When aggressive acts are separated in time through intervening events, code if aggression even if the same subclass of aggression is involved between the same aggressor and victim.

Example

"I RIPPED UP some of my husband's love letters from an old girlfriend that were up in the attic, but then thought about it and quit. I went downstairs and started to sew. After a while I turned on the TV but I kept thinking about the other letters, so I went back up to the attic and RIPPED UP all the rest of them"

D 5 > 1MHA

D 5 > 1MHA

7. Reciprocated aggressions are coded according to the same rules that are applied to initiated aggressions.

Friendly Interactions

The second type of social interaction that we code is friendliness. Seven subclasses of friendliness are distinguished below. These subclasses cannot be grouped as easily as the aggressive ones into physical versus non-physical or verbal forms of expression. Again, we urge that the numbers associated with the subclass not be treated as if they represent some measure of intensity or strength of response. The various subclasses discussed below all involve deliberate, purposeful attempt on the part of one

character to express friendliness toward another. This may eventuate in some pleasant outcome for the person receiving the friendliness. The classification of Good Fortunes, to be discussed in a later section, is used to handle those situations where some pleasant outcome (e.g., finding money) occurs as the result of environmental circumstances rather than a result of personal interaction with another character.

Subclasses of Friendliness

F7: Friendliness expressed through a desire for a long-term close relationship with a character. Included in this subclass are getting married becoming engaged, and falling in love.

Example

"I was so happy because my boyfriend had just GIVEN ME A BEAUTIFUL ENGAGEMENT RING"

F6: Friendliness expressed through socially acceptable forms of physical contact. Included in this subclass are such as shaking hands, cuddling a baby, and dancing. Kissing and embracing are also included when they are clearly nonsexual as a separate interaction.

Example

"My son began TO PET the new puppy"

F5: Friendliness expressed by taking the initiative in requesting a character to share in a pleasant social activity. Included are situations where one character request another to accompany him or her to some event, asks for a date or visits someone. In the latter case, friendliness is coded because visiting implies that someone is taking the initiative or an active role in furthering a relationship with another character. Simply associating with a character or jointly participating in an activity is not coded as a friendly act.

Example

"My roommate ASKED ME TO SPEND THE WEEKEND at her home"

F4: Friendliness expressed through extending assistance to a character or offering to do so. Included in this subclass are helping, protecting, and rescuing acts.

Example

"When we received the news, our family BEGAN TO PRAY FOR THIS RECOVERY"

F3: Friendliness expressed by offering a gift or loaning a possession to a character.

Example

"John GAVE ME A LOVELY BLANKET four our anniversary"

F2: This subclass covers a wide variety of expressions of friendliness that may conveyed through either verbal or gesture means. Included are such activities as welcoming, greeting, waving hello or goodbye, introducing one person to another person, smiling at someone, phoning or writing someone for a friendly purpose, and sympathizing with or praising someone.

Example

"He TOOTED THE CAR HORN IN RECOGNITION as he passed me on the street"

F1: Friendliness is left toward a character but it is not expressed overtly.

Example

"I FELT SO GOOD INSIDE just to be with Tom"

Terminology Employed for Friendly Interactions

The initiator of a friendly act is called the befriender, and the recipient of a friendly act is called the befriended. If the befriended responds with type of friendliness, it is called reciprocated friendliness. In those cases where no befriender or befriended can be clearly identified because the characters are engaging in the same friendly exchange at the same time, the interaction is called mutual friendliness. When a character may express friendliness to himself or herself it is called self-directed friendliness.

Procedure for coding friendly interactions

The procedures are exactly the same as those for coding aggressive interactions. The coding symbol for the befriender is written first, followed by the number of the appropriate subclass. Next the sideward > appears and points toward the coding symbol for the befriender character. Reciprocated friendliness is denoted by placing the letter R after the friendly subclass number rather than a sideward >. Mutual friendliness is indicated by an 'equal' (=) sign. If more than one characters is involved, the coding symbol for the characters are joined by a plus (+) sign. Self-directed friendliness is indicated by placing an asterisk (*) after the number of the friendly subclass.

Coding rules

1. It is considered to be a friendly act even through the befriender may be acting in a societal or professional role

Example

"The DOCTOR SET my baby's broken leg"

1IOA 4 > 1IIB

2. If a character treats another character's possessions in a friendly manner, is coded as a friendly treatment of the character himself.

Example

"My girlfriend ADMIRE MY NEW CAR"

1FKA 2 > D

3. If the befriender or the befriended is not specified in the dream report, use Q to indicate this lack of identification.

Example

"I gave the CHURCH a hundred dollars"

D 3 > Q

4. If there is a continued sequence of friendly acts between the same befriender and befriended characters and these acts involve the same subclass of friendliness, only one friendly act is coded.

Example

"After class, she SMILED, said Hello and then began to tell the professor how much she enjoyed his lecture"

1FUA 2 > 1MOA

5. If more than one friendly act takes place between the same befriender and befriended characters, code each different subclass of friendly acts separately and indicate their linkage by placing a { mark in front of the linked interactions.

Example

"The truck driver gave me a BIG SMILE and then he HELPED me change the tire"

{1MOA 2 > D

{1MOA 4 > D

6. When friendly acts are separated in time through intervening events, code each friendly act even if the same subclass of friendliness is involved between the same befriender and befriended characters.

Example

"I WAVED HELLO to Sally as I walked into Grants. I bought some records, watched part of a TV show, and ate lunch at the snack bar there. As I involved between the same befriender and befriended characters."

D 2 > 1FKA

D 2 > 1FKA

7. Reciprocated friendliness is coded according to the same rules that are applied for initiated friendliness.

Sexual Interaction

The remaining class of social interactions is sexual. Five subclasses of sexual interaction are described below. The most frequent form of sexual expression involves some type of physical contact, although we have one subclass to handle sexual fantasies.

Subclass of sexual interactions

S5. A character has or attempts to have sexual intercourse with another character.

Example

"My girl was willing and I was getting ready to INSERT MY PENIS when I woke up"

S4. This subclass involves the various types of non-intercourse activities often preceding intercourse. Included are handing another character's sex organs and related fondling and petting activities. Masturbation is also included in this category.

Example

"I dreamed I looked in the window across the street and I saw this man I didn't recognise FONDLING THE NEIGHBOUR LADY'S BREASTS"

S3. This subclass covers necking and non platonic kissing. Kissing as a form of greeting (e.g., between family members) is coded under friendliness.

Example

"And then my boyfriend KISSED me long and hard"

S2. A character makes sexual overtures to or propositions another character.

Example

"This good-looking woman who was a stranger to me SUGGESTED WE GO TO HER APARTMENT AND MAKE LOVE"

S1. A character has sexual thoughts or fantasies about another character.

Example

"I IMAGINED what it would be like to SLEEP WITH Elizabeth Taylor"

Terminology employed for sexual interactions

The character who takes the initiative in starting a sexual interaction is called the initiator, the character who is the object of the sexual interaction is called the recipient. If the recipient responds with any type of sexual activity, it is called reciprocated sexuality. When no indicator or recipient can be clearly identified, the interaction is called a mutual one. If the dreamer does not participate in the sexual interaction, it is called a witnessed sexuality. When a character indulges in solitary sexual activity, it is called self-directed sexuality.

Procedure for coding sexual interactions

The procedure is exactly the same as that for coding other social interactions. The coding symbol of the initiator is written first, followed by the subclass number and a > pointing toward the coding symbol for the recipient. Recipient sexuality is designated by placing the letter R after the sexual subclass number rather than a sideward >. Mutual sexual interactions are indicated by an equals (=) sign. If more than one character is involved, either as initiator or as recipient, the coding symbols for the characters are joined by a plus sign (+). Self directed-sexuality is denoted by placing an asterisk (*) after the number of the sexual subclass.

Coding rules

1. It is considered a sexual act even though the initiator is acting in a professional role.

Example

"A red PROSTITUTE walked up and ASKED ME if it were worth five dollars for a little fun up in her room"

1FOA 2 > D

2. If there is a continued sequence of sexual activities between the same initiator and recipient and these activities involve the same subclass, only one sexual activity is coded.

Example

"I dreamed that J. R. and I were married and it was our wedding night. WE WERE MAKING LOVE and trying out different positions. First J. R. lay on top of me. then we had relations lying on our side, and then finally I got on top of him"

D 5 = IMKA

3. If more than one sexual activity takes place between the same initiator and recipient, code each different subclass involved and indicate their linkage by placing a { mark in front of the linked interactions.

Example

"I was in a hotel room with some gorgeous-looking blond wearing a flimsy nightgown, I walked over to the bed where she was and started to KISS HER. I got into bed and began to RUN MY HANDS OVER HER BODY. Just as I started to ENTER HER, I woke up and had to change my pyjamas"

{D 3 > 1FSA

{D 4 > 1FSA

{D 5 > 1FSA

4. When sexual activities are separated in time through intervening events, code each sexual activity even if the same subclass of sex is involved between the same initiator and recipient.

Example

"My boyfriend and I WERE NECKING on my living room couch. My parents came home and we all watched TV for a while and had some coffee later. After they went upstairs to bed, we BEGAN TO NECK AGAIN"

D 3 = 1MKA

D 3 = 1MKA

5. Reciprocated sexual acts are coded according to the same rules applied to initiated sexual acts.

The Classification and Coding of Activities

In this section, a system of classifying what characters do in dreams is presented. It includes activities that may be done by a character acting alone or in conjunction with other characters as well as interactions between characters. We have already taken up some social interaction in the preceding sections. These social interactions described in this section are not mutually exclusive. For example, a hostile act of one character hitting another, which would be coded A7 on the aggression scale, is also coded as physical activity on the activities scale. In the same way, a friendly remark made by one character to another, which would be coded F2 on the friendliness scale, is also coded as a verbal activity on the activities scale of this section.

Eight classes of activities are included in our coding system. They are described below.

Classes of activities

Physical

(Coding symbol P). Any voluntary movement of the whole body or of part of the body while the character remains more or less in one place is coded as a physical activity. Physical activity in a limited spatial area is emphasised because physical activity such as walking or running that results in the character moving into a different location is coded in the subsequent class of movement. For a physical activity to be coded, the nature of the physical activity should be clearly recognisable from the dream report. Reference to a character shopping, for example, is too vague to be coded because the description does not explain the precise activities of the character. It is possible that it might have referred primarily to visual activities, as in window-shopping or to verbal activities as in telephone shopping or haggling with a merchant; or to movement activities, in walking from store to store; or to physical activities, in handling various objects. A rough criterion that may be employed for judging whether a physical activity should be coded is as follows; can the coder with the information provided in the dream report, pantomime the activity successfully enough so that an observer could correctly identify the activity? If the answer is yes, a physical activity is coded. A few examples of codeable physical activities are dressing, combing one's hair, brushing one's teeth, sitting down, getting up, bending, writing, picking up an object, and chopping wood.

Movement

(Coding symbol M)

When a character changes his or her physical location by self-propelled movements of his or her body, a code is given for movement. Change in location through various means of transportation is coded in the subsequent class. Walking and running are the most frequent forms of movement activity, but a number of other possibilities such as crawling, sliding, swimming, and climbing are also reported. Terms such as entering or leaving are also codeable if they refer to a character voluntarily carrying out these activities under his or her own muscular power. Entering a house would be scoreable as movement if it seems clear that the character walked into the house, but entering a hospital on a stretcher would not be scoreable in this class. Involuntary movements such as falling, slipping, or being thrown through space are not coded as movement.

Location change

(Coding symbol L)

Whenever a character moves in a spatial dimension and arrives at a different location through any mean other than self-propelled muscular activity, a location change code is given. The change in location may occur because the character uses some means of transportation such as a car, plane, or boat, or the character may fall through space, be carried, or be dragged by someone else. Any verbs that suggests a change was effected are grounds for coding a location change. A few examples of such verbs are 'went', 'came', 'arrived', 'departed', 'journeyed', and 'travelled'. If a character suddenly finds himself or herself in a new location because there has been an abrupt shift in setting, a location change code should not be entered. For a location change code to be given, there must be an indication that the character, even though the means of travel have not been specified. Movement activities such as walking and running, which were described in the immediately preceding class, are not included in the location change class.

Verbal

(Coding symbol V)

Any type of vocalization whether it be a breakfast conversational grunt, a thundering speech, a whispered affectionate term, an abusive curse, a recited poem, or a dramatic soliloquy, is coded as verbal activity. Singing is also coded as verbal activity.

Expressive communication

(Coding symbol E)

Included in this class are those nonverbal activities associated with emotional states that are sometimes not under voluntary control. Numerically, it is a very infrequently used class. Laughing and crying are the most common forms of expressive communication, although smiling, scowling, baring one's teeth, drooling, and gasping all belong to this class.

Visual

(Coding symbol S)

All types of seeing activities are included here. Among the large number of words denoting visual activities are those such as 'see', 'notice', 'read', 'watch', 'peek', 'glance', 'view', 'inspect', and 'distinguish'.

Auditory

(Coding symbol A)

Whenever a character is described as being engaged in any type of hearing or listening behaviour, a code for auditory activity is given.

Thinking

(Coding symbol C)

The remaining class consists of the most covert form of activity - thinking activity. To be coded as a thinking activity the description should indicate that deliberate continued mental effort was involved. This thinking should possess a goal-directed or problem solving quality. Some verbs reflecting this quality of thinking are concentrate, puzzle over, contemplate, ponder, brood, ruminate, preoccupy, engross, study, weigh, speculate, deliberate, and think about. Attempts to decide figure out, understand, grasp, and plan are also reflective of the kind of sustained ideation that is included in this class. Brief, transient mental activities are not coded. For example, such reports as 'I think it was blue', 'I remember the room was familiar', 'I forgot my coat', and 'I couldn't recognize him' do not convey any sense of prolonged or

intentional thinking activity. Wishes feelings and sensations represent in such reports as 'I wished I were home', 'I felt sorry for him', or 'I was thrilled by the view' are not included in the thinking class.

Procedure for coding activities

Most activities are coded as follows. If the dreamer alone engages in these activities, it will be coded as D X, where X is one of the activity codes (P, M, L, V, E, A, C, S). If other characters, or the dreamer and other characters engage in an activity together, the coding symbols for those characters are followed by the coding symbol for the activity class (e.g., 1MFA L). Joint activity by more than one character is indicated by a plus sign. For two of the activity classes - physical and verbal activities - there can be interactions between two characters. In this case, the coding procedure is identical to that followed for social interactions. If a physical or verbal interaction occurs between two or more characters, the coding symbol for the character beginning the interaction is written, followed by the letter P or V, depending on the class involved, then a sideward >, and finally the coding symbol for the character toward whom the activity is directed. A character who is the recipient of a physical activity may return a physical activity to the initiator, or the recipient of a verbal activity may reply with a verbal activity to the initiator. These are reciprocated physical or verbal activities and are coded by placing the letter R after P or V, in place of a > mark. When the physical or verbal interactions do not have a clearly defined initiator and physical or verbal interactions and are coded by placing an equal sign (=) after the P or V.

Of course, there are quite a large number of physical activities and some occasional verbal activities where only a single character is involved, or where two or more characters are engaged in a parallel physical or verbal activity at the same time. In such cases the procedure is the same as for all other activities: list the name of the characters followed by P or V.

In Hall and Van de Castle original coding scheme activities were treated slightly differently. When the dreamer was the only character involved, the D was omitted. When there was no interactive P or V activity, the characters were written to the right of the activity code, separated by a comma. We have changed this convention slightly so that the data are easier to enter into a computer for further analysis in our new system, the persons involved in the activity are always on the left.

Example

"I PUNCHED this guy in the stomach and then he CONNECTED WITH AN UPPERCUT to my jaw"

D P > 1MUA

1MUA PR D

Coding rules

To be coded an activity must be described as a current or completed activity. Do not code contemplated or anticipated activities. The latter are indicated by such terms as 'would', 'could', 'should', and 'might'. An activity is indicated by the use of a verb. Because a dream report often contains large number of verbs the following rules are intended to serve as a guide with regard to the number of activities that should be coded.

1. A continuous sequence of similar actions performed by the same character is coded as one activity.

Example

"I was TALKING to my young son. I asked him what he did second grade that day. When he didn't answer, I asked him again. Finally I asked in a very loud voice and he REPLIED, nothing much"

D V > 1MAC

1MAC VR D

2. A sequence of activities performed by the same character and belonging to the class is coded as separate activities if different activities are involved.

Example

"I WALKED into the bathroom, TURNED ON the light, TOOK A SHOWER, SHAVED, BRUSHED my teeth, and then COMBED my hair."

D M

D P

D P

D P

D P

D P

3. If activities belonging to the same class are separately engaged in by different characters, they are coded as separate activities.

Example

"I was WALKING down one side of the street, and Mary was WALKING down the other side of the street"

D M

1FKA M

4. If activities belonging to the same class are jointly engaged in by different characters, they are coded as a single activity.

Example

"Mary and I were WALKING down the street TOGETHER"

D + 1FKA M

5. If the same character engages in interactional activities with different characters, separate activities are coded.

Example

"I was TALKING to my mother, and then my father CAME HOME and I began TALKING to him"

D V > 1FMA

1MFAL

D V > 1MFA

6. If intervening events occur, separate activities are coded even though they involve activities, identical characters, or identical interactional patterns.

Example

"My sister and I WENT FOR A WALK in the woods. As we turned down one trail we saw two squirrels. One squirrel was Running along a branch, and the other WAS CRACKING A NUT. I HEARD a bluejay and CALLED to my sister to listen. We both LAUGHED at the sound. We then CONTINUED OUR WALK"

D + 1FTA M

D + 1FTA S

1ANIM

1ANI P

D A

D V > 1FTA

D + 1FTA E

D + 1FTAM

The Classification and Coding of Striving Success and Failure

In dealing with the interactions and activities engaged in by characters, coding attention has been paid, so far, only to whether reciprocal acts follow some initial act. Left out has been an important consideration - does a character succeed or fail in carrying these activities through to some desired outcome? To take account of possible results, we have developed a classification for striving. Included within this classification are the two classes of Success and Failure.

In our efforts to fashion a workable striving scale, our greatest difficulty was encountered in deciding how much latitude should be allowed for the criteria governing success and failure. We eventually settled on a rather stringent and rigorous standard. First, it must be reasonably clear from the dream report that a character has formulated some definite attempt to a satisfactory conclusion, a success is coded; if he or she is unsuccessful, a failure is coded. Coding examples are provided below.

Success

For a success to be coded, the character must be described as expending some energy and perseverance in pursuit of his or her goal. The objective need to be of epic significance; a successful handling of some difficulty encountered in a character's daily life is sufficient to qualify. What is important is that the character is confronted by some problem decides to deal with it and then works at its solution before eventually managing to succeed. Any type of magical solution would be coded as a good fortune, which will be discussed in the next section.

Example

"I discovered I had a flat tire, so I got my tools and began to change it. It turned out to be rather difficult job, but I KEPT AT IT AND FINALLY MANAGED TO FIX IT"

Failure

The same prerequisites described for success - willingness to deal with an existing problem and continuing efforts to master it - must also be met before failure can be coded. The difference is only in the matter of outcome. When a character is not able to achieve his or her desired goal because of personal limitations and inadequacies, a failure is coded. If a character is thwarted in the achievement efforts because of some adverse environmental intervention such as storm or sudden illness, a misfortune is coded.

Example

"I wanted to board this boat and kept trying to climb the ladder but every time I got near the top I SLIPPED BACK INTO THE OCEAN AGAIN"

Coding procedure for success and failure

The coding symbol for the type of achievement is listed first, following by a comma. The coding symbol for success is SU, and for failure is FL. After the comma, the coding symbols for the relevant characters are recorder. Multiple characters are joined by a plus sign.

Example

"I wanted to hit a home run. After two consecutive strikes, I decided that it would be the next one that I would belt out of the park. I swung real hard and heard the ump yell, STRIKE THREE YOU'RE OUT"

FL D

Coding for consequences of success and failure

Sometimes after achieving a success or failure, something else will occur that will change the outcome for a character. Fate, or some other character may step in to alter what a character has just achieved. The character himself or herself may make more effort, which again may result in a reversal of the previous outcome. To handle such situations, three subclasses of consequences that may modify the original outcome are coded for each of the striving outcomes. These consequences are represented by placing the coding symbols for them in parentheses after the coding that appears for the achievement outcome unit. Because these consequences are classifications that appear in other sections, these codes also appear separately and independently of their consequence status. The rationale for coding such consequences is that of preserving the sequence of dream events in order to answer certain interactional questions that might be raised. Such questions might take efforts mollified by the environment? or in what percentage of failures does some other character intervene and attempt to help the failing character?. The three consequences of success are illustrated below.

1. A character achieves success but it is mollified by a misfortune. The coding symbol for misfortune is M. This class of events is discussed in the following section on environment misfortunes and good fortunes.

Example

"I had worked very hard to make the cheerleading squad. After finally receiving word that I had made it. I BROKE MY LEG AND COULDN'T BE A CHEERLEADER"

SU, D (M)

MF, D

2. A character achieves success but subsequently over lends himself or herself and failure occurs.

Example

"I was making a great deal of money by skilful manoeuvring on the stock market. Then I began to speculate and LOST ALL MY MONEY"

SU, D (FL)

FL, D

3. Another character intervenes in an aggressive fashion and intentionally nullifies the success.

Example

"My brother and I had been struggling to build this fancy model house out of wooden match sticks. After we finally glued the last one in place, my 11-year-old brother came along and INTENTIONALLY DROPPED A BRICK ON IT WHICH DEMOLISHED IT"

SU, D + 1MBA (A)

1MBC A5 > D + 1MBA

The classification and coding of misfortunes and good fortunes

It sometimes happens that bad or good outcomes occur to a character independent of anything he or she may have done. Fate, in a sense, has stepped in and procured certain results over which no character has any control. We have labelled these impersonal ‘fatalistic’ events as misfortunes, where bad things happen to a character, and good fortunes, where good things happen to a character.

Misfortune

We shall first deal with misfortune (Scoring symbol M). A misfortune is any mishap, adversity, harm, danger, or threat that happens to characters as a result of circumstances over which they have no control; it happens to them through no fault of their own. A misfortune differs from the consequence of an aggressive act, since in an aggression there is an intent by one character to harm another character. There is no such intent in a misfortune. A misfortune also differs from a failure, as was pointed out in the last section. In a misfortune, a person is not trying to do anything rather, something bad happens out. The six subclasses of misfortune are listed below.

M6. A character is dead or dies as a result of accident or illness or some unknown cause. Death because of murder is categorically excluded because it is coded as an aggression.

Example

“I was attending my FATHER FUNERAL”

M5. A character is injured or ill. This class includes pain, operations, any bodily or mental defects, insanity, amnesia, blindness, and so on. Elective plastic surgery is not counted as an operation because it is elective surgery.

Example

“Her baby boy had a serious congenital HEART DEFECT”

M4. A character is involved in an accident without suffering physical or mental injury; a character loses a possession or has one destroyed or damaged; a character has a defective possession.

Example

“The DIAMOND CAME OUT of my engagement ring”

M3. A character is threatened by something in the environment. A threat of falling is classified under the next heading.

Example

“The wall began to crack and bulge out and I thought it was GOING TO FALL ON ME”

M2. A character is falling or is danger falling.

Example

“I dreamed that I WAS FALLING AND FALLING and never hit bottom”

M1. A character encounters an environment barrier or obstacle; a character is unable to move; a character is lost or late or is in danger of being late. This class of misfortunes includes situations that produce frustration for the character who confronts them.

Example

“When we reached the river, we discovered that the BRIDGE HAD COLLAPSED so we couldn’t get to the picnic grounds”

Good fortune

Good fortune is the opposite of misfortune. A misfortune is coded when something bad happens to a character; a good fortune is coded when something good happens

to a character. The something good is not the result of an intentional beneficial act by another character. That would be coded as friendliness. Neither is the something good the result of any purposeful striving by the character. That would be coded as success. A good fortune is coded when there is acquisition of goods or something beneficial happens to a character that is completely adventitious or the result of a circumstance is in a bountiful environment. It might be said that a good fortune is coded whenever a character becomes lucky. Good fortunes are rather rare in dreams. We code for only one class of good fortune, the coding symbol is GF.

Example

"I dreamed I FOUND A LOT OF MONEY"

Coding Procedures

The coding procedure is the same as that followed in the last section. A comma is placed after the coding symbol for the environment press, and then the coding symbols for the characters are shown. Multiple characters are joined by a plus sign.

Example

"I LOST MY WATCH over the side of the boat"

M4, D

Consequences

In the last section, it was indicated that consequences can occur that would modify the initial striving outcomes. In a similar fashion, the coding system for misfortune and good fortune includes provisions for consequences that alter the initial fate bestowed on a character. Three subclasses of consequences have been developed. These consequences are either a form of social interaction, a success or failure, or the opposite type of fatalistic event. They are also coded independent of their coding as a consequence. Their coding as a consequence is indicated by enclosing the relevant coding symbol in parenthesis following the coding unit. The purpose of coding as a consequence is to preserve the sequence of events in order to answer certain questions that might be raised. Such questions might ask. How often does a character struggle to overcome a misfortune and success? or in what percentage of good fortunes does fate intervene and turn an initial blessing into some misfortune? The three consequence of misfortune are illustrated below.

1. The misfortune is transformed into a good fortune.

Example

"My mother was very sick, but ALL OF A SUDDEN SHE APPEARED WELL AND HEALTHY"

M5, 1FMA (GF)

GF, 1FMA

2. The character suffering the misfortune tries to cope with the misfortune and succeeds.

Example

"The door was locked and wouldn't open. After trying several times I finally used a bent hairpin and MANAGED TO GET IT OPEN"

M1, D (SU)

SU, D

3. Another character intervenes in a friendly fashion and dispels the misfortune.

Example

“I was hopelessly lost in the woods and wandering around in circles. Suddenly, a man I had never seen before appeared and SHOWED ME THE WAY OUT OF THE WOODS”

M1, D (F)

1MSA 4 > D

The three consequences of good fortune are as follows.

1. The good fortune is transformed into a misfortune.

Example

“I found a lot of money but on my way home IT DISAPPEARED”

GF, D (M)

M4, D

2. The character to whom the good fortune occurs tries to press his or her luck and fails.

Example

“I dreamed I had found a lot of money, I invested it in order to make more money but THEN I LOST IT ALL”

GF, D (FL)

FL, D

3. Another character intervenes in an aggressive fashion and intentionally destroys the good fortune.

Example

“My teenage sister found this real cute puppy, but my father said SHE COULDN’T KEEP IT”

GF, 1FIT (A)

1MFA 3 > 1FIT

Coding rules

1. Score each misfortune that happens to the same character when the misfortunes belong to different subclasses.

Example

“My brother’s car WAS WRECKED, and HE GOT CUTS ON HIS FACE and broke his arm in the accident ”

M4, 1MBA

M5, 1MBA

2. Score each misfortune or good fortune, even those that belong to the same subclass, if they happen to the same character at different times in the dream.

Example

“I was skiing when I ran into a tree and CUT MY LIP. I went back to the hotel lounge and put a Band-Aid on it. Then I started out again. This time I SPRAINED MY ANKLE when one of my skis came off”

M5, D

M5,D

The classification and scoring of emotions

The classification of emotions was one of our most difficult tasks. The problem of reducing the hundreds of words in the English language that represent affective states to a fairly small number of classes that seems to be fairly comprehensive, yet discrete in coverage, was a formidable one. Another stumbling block involved the question of extensivity of coding; that is, should we try classify the types of situations that caused

the emotions as well as consequences following the emotions? After experimenting with a large number of coding schemes, we eventually arrived at the answer to this question and several others by limiting our emotional states to five in number and simply indicating which characters experienced these emotions.

When coders go over dream reports, they are generally surprised at how few emotions are actually reported, unless the dreamer is specifically and strongly urged to state what emotions are being experienced during the dream. Situations that would undoubtedly be terrifying or depressing for the average individual may be reported in some detail, but a description of their emotional impact on the dreamer, is often lacking.

The five classes of emotion are presented below

Anger

(Coding symbol AN)

This class of emotions is generally easy to identify. Representative of some of the terms coded under anger are 'annoyed', 'irritated', 'mad', 'provoked', 'furious', 'enraged', 'belligerent'. As with the following emotional classes, all degrees of intensity are included within each class, and no coding distinction is made between, weak expressions of anger such as being peeved or strong expressions such as being infuriated.

Apprehension

(Coding symbol AP)

The emotions in this class can be considered related to fear, anxiety, guilt and embarrassment. Although differences are recognisable among them, all these conditions lead conscious concern on the part of the person experiencing them. The person feels apprehensive about the possibility of physical injury or punishment, or the possibility of social ridicule or rejection. Thus the common denominator underlying these emotions is that the person is uncomfortable because the threat of some potential danger exists. The following terms, which are not meant to be all inclusive, refer to various degrees of apprehension: 'terrified', 'horrified', 'frightened', 'scared', 'worried', 'nervous', 'concerned', 'panicky'.

Happiness

(Coding symbol HA)

All the words that describe a general state of pleasant feeling tone are included in this class. Some of the terms that would be coded as happiness are 'contented', 'pleased', 'gay', 'relieved', 'amused', 'glad'.

Sadness

(Coding symbol SD)

All the words that describe an unhappy emotional state are coded in the sadness class. References to physical pain or physical distress are not included in any of the emotional classes. Some examples of terms would be coded as sadness are 'disappointed', 'distressed', 'hurt', 'depressed'.

Confusion

(Coding symbol CO)

Although it may be debatable as to whether confusion is a condition possessing the same degree of autonomic involvement as the preceding emotions, we have chosen to place it in the classification of emotions. It is true that confusion resides more in the head as a state of cognitive ambiguity than it does in the viscera as a gut-type

reaction. However, the feeling state accompanying uncertainty may begin to shade toward a type of free-floating anxiety, toward frustration, or toward depression. Because confusion is therefore 'emotion like', and also because it is reported fairly frequently in dreams, mention of it seems to belong most appropriately in the classification of emotions. Confusion is generally produced either through confrontation with some unexpected event or through inability to choose between available alternatives. Some words that may indicate confusion are 'surprised', 'astonished', 'amazed', 'uncertain'.

Coding procedures

Because emotions are often not described, the coder may be tempted to infer emotions on the basis of the physical surrounding or activities mentioned in the dream report. This temptation should be resisted. If a dreamer says that he or she was in a torture chamber or being chased, the coder should not assume that apprehension was being experienced unless the dreamer says that such an emotion was being experienced. We make only the exception to this. If the dreamer describes definite autonomic activity accompanying an event, and its clear from the combination of context and the autonomic-description that the dreamer was experiencing an emotion that could be clearly classified as one of the five scoreable emotions, we will code an emotion. The coder should not attempt to assign an emotion automatically on the basis of its listing in the preceding groups. In some cases, the same word may take on quite different meaning groups. In some cases, the same word may take on quite different meanings in different contexts. For example, the statement 'I was shocked' might possibly indicate any one of the five emotional classes, depending on how the dreamer goes on to describe his or her reaction. The coding procedure followed in the last two sections is also employed for emotions. A comma is placed after the coding symbol for the emotion, and then the coding symbols for the character are presented. As usual, multiple characters are joined by plus signs.

Examples

"I became FURIOUS WHEN I saw my boyfriend holding a girl's hand"

AN, D

"My buddy and I were OVERJOYED when we finally found the treasure"

HA, D + 1MKA

Additional codings rules

1. If the terms used to describe a reaction to a particular event all belong to the same class, that class of emotions is coded only once for that event.

Example

"I was so PLEASED and happy to hear the news"

HA, D

2. The same class of emotion may be coded more than once if it appears as a reaction to different events.

Example

"I was MAD at my wife for not fixing coffee. Then I got MAD at the bus driver because he wouldn't give me change for a ten-dollar bill. When I arrived at work, I became Mad at my boss because he asked me to do someone else's work besides my own"

AN, D

AN, D

AN, D

3. If more than one class of emotions is described as reaction to the same event, each class is coded separately.

Example

"I was SAD when I saw the damage to the roof but was GLAD that the rest of the house had not been damaged"

SD, D

HA, D

The classification and coding of physical surroundings

Settings and objects

The character in a dream report do not act without a context. The dream report almost always contains physical surroundings that are divided into two very general categories in the Hall/Van de Castle system: setting and objects. Generally, settings and objects have not been quite as interesting as some of the categories that already have been presented, but they sometimes have their uses.

Settings

Almost all dream reports include some form of recognisable setting and dreamers frequently begin their report by saying something about the setting. In the same way that there are often several acts and scenes to a play, so, too, is common for the setting to change during the course of a dream narrative, sometimes quite abruptly.

Establishing the categories for settings was the most difficult aspect of the entire coding system. The final efforts to classify settings included a rather extensive number of possible settings. It was impossible, however, to obtain adequate inter-coder reliability when such a large number were involved, so we eventually collapsed all settings into two broad grouping: indoor and outdoor settings.

Indoor settings consist of those in which the dreamer is within a building. The building may be a house, hotel, church, factory, barracks, or some other structure. Any room such as a living room, cellar or attic is therefore an indoor setting. Open-air buildings such as amphitheatres or stadiums are also coded as indoor settings. The coding symbol for indoor settings is I.

Outdoor settings are those where the dreamer is described as being out-of-doors or outside a building. Settings occurring in nature, such as when the dreamer is at the beach, in the woods, or on a mountain are included, as well as urban settings such as streets, sidewalks, yards and cemeteries. The setting is considered an outside one if the dreamer is in a car, train, boat, or airplane, unless the car is in a garage or the airplane is in a hangar. Being in a tunnel or cave is coded as an outdoor setting. The coding symbol for outdoor settings is O.

The decision of whether a setting should be coded I or O is generally not a difficult one, and a high level of coding agreement can be readily achieved for the distinction between them.

In few cases it appears that a setting is definitely present, but it cannot be determined whether it should be coded I or O because the dreamer has not supplied sufficient information. For instance, she might say, 'We went to the country club' and it is not clear whether the dreamer is referring to some sort of building or whether she means the golf course, tennis area, or swimming pool. We handle these infrequent cases by coding such settings as ambiguous and indicate this by the coding symbol A.

An even more infrequent situation is the one in which no setting is described. Short dreams or those that seem to be only some fragment of a longer dream are the ones most likely not to contain any setting. These dreams are coded with the symbol NS which stands for no setting. The present of any object or surroundings, no matter how vague, is sufficient to warrant some type of setting code, other than NS.

Once the local of the dream has been determined, the next phase of coding settings involves determining the degree of familiarity that the dreamer reports for the setting. Five levels of familiarity are distinguished in our coding system.

Familiar settings

(Coding symbol F)

Are those in which it appears quite clear that the dreamer recognizes the setting as being a personally familiar one, such as his own friend's house, place of employment, or place of worship. If the setting is a well known or famous one that the dreamer can identify, such as the Empire State Building, Mt. Everest, it is coded as being a familiar setting, even though the dreamer may never have been there. Thus, if the dreamer is able specially to identify a setting or indicates that he or she has prior acquaintance with it, an F code is given.

Distorted settings

(Coding symbol D)

Are familiar settings that the dreamer indicates involve an element of peculiarity or incongruity, because they differ in some respect from the way the dreamer knows the setting to be in waking life. Coding is fairly liberal for this category so that a setting containing any distortion, even of a minor nature, is coded D,. The distortion, however, must involve the physical surroundings rather than the appearance of any character. The D code takes precedence over any other setting code.

Geographical settings

(Coding symbol G)

Are those in which the dreamer identifies the setting according to their geographical location, such as Europe, Illinois, San Francisco. If the dreamer also indicates that the setting is a personally familiar one, the F coding is given precedence over the G coding.

Unfamiliar settings

(Coding symbol U)

Are those that are not known to the dreamer. Sometimes the dreamer will be very explicit and state that the setting is a place he or she has never seen or visited before, or sometimes the adjective 'strange' will be used to indicate that the setting is not recognised as a familiar one. In other instances, the vague description of the setting will often reveal the lack of familiarity. Statements showing this vague quality are 'I was in some house', 'I was driving down the street of a large city'. If the coder can answer yes to the question 'Does the description of the setting strongly suggest that the dreamer has not actually been in this setting in his waking life?' the setting is coded U. It has never been in the setting in waking life, for if the setting is a famous one it is coded F, if it is referred to as some specific geographical location it is coded G, and if there is something incongruous about the arrangement of the setting it is coded D.

Questionable settings

(Coding symbol Q)

Are coded when it cannot be determined whether the setting is familiar or unfamiliar one. The description provided in the dream report is often insufficient to establish the familiarity or unfamiliarity of a setting with any degree of assurance, so Q is a frequently employed code.

Coding settings is generally fairly easy. Deciding whether a setting should be coded U or Q and determining the total number of settings are the coding problems that pose the greatest difficulty.

Determining the number of settings

The rules for determining the number of settings are given below along with coding examples. Items to be coded will appear in capital letters, and items that may seem relevant, but that should not be coded, are italicised.

1. For a setting to be coded, the dreamer must appear as an observer in the setting. Do not code settings in which other characters are located unless the dreamer appears as an observer in the same place.

Example

"I was walking through what I thought were THE STREETS OF NEW ORLEANS"
OG

2. All changes in location within a single building are coded as a single indoor setting. Changes in location from one building to a different building are coded as separate indoor settings.

Example

"I stopped IN THE TODDLE HOUSE (IF) for a cup of coffee and then went to A BEAUTY PARLOUR (IQ) to get my hair done"

3. If any type of codeable intervening setting occurs, the same indoor location may be coded more than once.

Example

"We quickly packed a lunch AT DOROTHY'S HOUSE (IF), then drove for a while IN THE COUNTRY (OQ) and returned to DOROTHY'S HOUSE (IF) and listened to records"

4. Outdoor settings are coded separately if they involve clearly differentiated and separate regions. If the dreamer is describing different areas of a larger region, a single overall outdoor setting is coded.

Example

"We attended the burial at THE CATHOLIC CEMETERY (OF) then drove off to SOME NEARBY SMALL TOWN (OQ) to talk"

5. If any type of codeable intervening setting occurs, the same outdoor location may be coded more than once.

Example

"We were surfing at SOME BEACH THAT I COULDN'T RECOGNISE (OU) when the scene shifted to some STRANGE ROOM THAT HAD PAINTINGS ALL OVER THE WALLS (IU), and then I was back surfing at the SAME BEACH 9ou0 again"

6. For an additional setting to be coded, some action should take place within the new setting or the dreamer must describe himself or herself as actually being located in the new setting.

Example

“AFTER WALKING IN THE RAIN (OQ) for what seemed a long time, *I arrived at my friend's home*”

Objects

The settings of the dream provide the general background against which the various dream activities are viewed. To provide a more detailed picture of the physical surroundings that the dreamer creates, attention must also be paid to the various objects that appear in dream reports.

An object is a thing, it has tangibility, palpability, and dimensionality. It also has definite physical boundaries or limits. Intangibles such as air, wind, fog, and sky are excluded by such considerations as are songs or sounds which have temporal boundaries but not physical ones. Location such as cities, streets, rooms, and lakes have physical boundaries and consequently are classified as objects. In some cases, a thing such as a building that is always coded as an object may also be coded as a setting if the dreamer indicates she or he was engaged in some activity within the building. Persons and animals are not coded as objects because they are handled separately under the classification of characters, but parts of persons and animals are treated as objects.

Because any object we encounter in waking life can be represented in dreams, and some items may also show up in dreams that we would be started to see with our eyes open, the problem of formulating a system for the classification of objects is a difficult one. The number of possible groupings could be very large if one chose to categorise by reference to size, shape, colour, weight, age, composition, ownership, location, function, and other qualities that could readily be suggested. After several arrangements had been tried, we finally settled on a system that includes 12 broad classes, three of which are further subdivided, plus a miscellaneous class. All objects that appear in dreams are therefore classifiable under one of these headings. These classes are presented below.

Architecture

Architecture refers to buildings or structures and their component parts. Seven different subclasses of architecture are coded. The first letter of the coding symbol for architecture is A which is followed by a second letter to indicate the class. The first four classes deal with entire building or units within buildings, while the next two deal with small component parts of buildings. Any architectural object not included in these six classes is coded in the subclass of miscellaneous architecture.

Residential

(Coding symbol AR)

This subclass is composed of all buildings and units of buildings (rooms) that are used for residential purposes. It includes house, mansion, castle, palace, cabin, shack, hut, tent, and other types of private dwelling place. It also includes apartment house, dormitory, hotel, motel, inn, and other types of multiple dwelling places in which people reside temporarily or permanently. In addition, to obvious residential rooms such as bedrooms and living rooms, it includes hallways and stairways as well as levels within a residential building such as the second floor, downstairs, and basement.

Vocational

(Coding symbol AV)

This subclass includes buildings and rooms in buildings devoted mainly to business transactions, manufacturing, employment or education. What such buildings share in common is that they are primarily concerned with work or vocational activities. Included is any type of store, factory, and office. Classroom building and classrooms are also coded as vocational because of their implied work emphasis; other educational buildings such as school dormitories, cafeterias, and chapels are classified under other headings. Banks are included in the money class. Home workshops and study rooms are not included here. They are coded AR.

Entertainment

(Coding symbol AE)

This subclass covers buildings and rooms that are used for recreation, entertainment, sports, or other pleasurable activities. Included are restaurant, cafeteria, diner, bar, nightclub, casino and indoor swimming pool; they are coded AR.

Institutional

(Coding symbol AI)

This subclass is composed of buildings or units within them that society maintains for collective action in dealing with social or governmental problems. Such buildings are therefore generally supported by taxes or subscription. Included are hospital, infirmary, jail, courthouse, military building, and church, as well as the units within them as surgery room, cell, courtroom, tax collector's office, and choir loft.

Details

(Coding symbol AD)

This subclass consists of all parts of a room or smaller units of a building not usually regarded as separate rooms. Included are door, window, wall, ceiling, fireplace, aisle, steps, and floor. In the last example, floor refers to the walked-on surface of a room, not to a level within a building. It does no matter what type of building is involved; a house door, restaurant door, or church door is all coded as AD. In addition to internal components, architectural details include those structures viewed from outside a building such as roof, chimney, spire, arch, and column.

Building materials

(Coding symbol AB)

Included in this subclass are those objects used to construct buildings such as boards, lumber, bricks, concrete blocks, and cement.

Miscellaneous

(Coding symbol AM)

Any building or part of a building that cannot be classified within the preceding architectural groupings would be included here. Some examples are tower, dam, and fountain.

Household

(Coding symbol HH0)

Contained within this class are all objects frequently encountered in a household setting. Included are furniture such as table, chair, and bed; appliances such as stove, refrigerator, and vacuum; and supplies such as sheet, light bulb, and soap. Silverware, dinnerware and cooking utensils are coded HH.

Food

(Coding symbol FO)

Both food and drink are coded in this class. Included are all forms of food or drink whether on the shelf of a store, in a refrigerator, in a container, on a plate, or on the table. It does not include food that is growing. Growing food is coded in the nature class. It does include general terms such as groceries, drinks, and things to eat, but not a reference to a meal or to eating without any specification as to what the meal consisted of or what was eaten. Grocery store and meat market are coded as AV, restaurant and cafeteria as AE, dining room as AR, and dining room table as HH.

Implements

Three subclasses of implements are coded. The first letter of the coding symbol for implements is I. A second letter is attached to indicate the subclass.

tools

(Coding symbol IT)

This class includes tools, machinery, and machinery parts. Objects that are used in vocational activities are generally included here, although some, such as typewriter, are coded in the communication class. Examples of the IT subclass are hammer, nail, saw, screwdriver, X-ray machine, jack, lever, and the starting button of a machine. Household appliances are coded in the household class, and parts of conveyances are coded in the travel class.

Weapons

(Coding symbol IW)

This subclass consists of such weapons as gun, club, sword, grenade, missiles, or bomb. Tanks and bombers are coded here rather than in the travel class.

Recreation

(Coding symbol IR)

This subclass incorporates sporting goods such as baseball bat, tennis racquet, balls, ice skates, and fishing pole; objects used in playing games such as cards, checkers, and dice, and toys such as dolls, miniature trucks, and blocks. This subclass also includes musical instruments.

Travel

(Coding symbol TR)

Encompassed within this class are all forms of conveyance such as car, truck, bug, streetcar, subway, and escalator. Parts of conveyance such as wheel, brakes, motor, and propeller are also included. In addition, objects associated with travel such as bus depot, train station, airport, license plate, and luggage are coded TR.

Streets

(Coding symbol, ST)

Covered within this class are all types of roadways by which a person can go from one place to another. Included are street, highway, road, path, trail, alley, sidewalk, driveway, intersection, bridge, and train tracks.

Regions

(Coding symbol NA)

This class consists of all outdoor objects that exist in nature. Included are all forms of plant life such as tree, flower, and grass; terrain such as mountain, plateau, cliff, cave, valley, field, meadow, swamp, and forest; natural bodies of water such as ocean, lake, pond, river, and waterfall, weather elements such as rain, snow, hail, and ice; heavenly bodies such as sun, moon, star, and planet; earth and its mineral products such as diamonds, rubies, or other gems. Growing fruits or vegetables are NA, but

fruits or vegetables prepared for eating are FO. Similarly, water or ice as it appears in nature is NA, but glass of water intended for drinking in coded FO.

Body parts

Both human and animal parts are included under this heading. Five subclasses of body parts are coded. The first letter of the coding symbol is B, which is followed by a second letter to indicate the subclass.

Head (coding symbol BH)

This subclass is composed of all visible body parts in the head region. It includes head, neck, throat, face, hair, horns, eyes, beak, nose, mouth, lips, tongue, real and false teeth, jaw, ears, and beard.

Extremities

(Coding symbol BE)

All extremities of the body such as leg, arm, tail, and fin as well as parts of extremities such as finger, hand, elbow, toe, foot, knee, and claw are included in this subclass.

Torso

(Coding symbol BT)

All visible parts of the torso such as shoulders, chest, abdomen, hips, side, and back are included in this subclass. Terms such as body, build, and physique are coded BT.

Anatomy

(Coding symbol BA)

This subclass contains internal body parts, both bony and visceral, and includes such parts as skull, ribs, leg bone, tonsils, heart, lungs, and intestines. Terms such as 'insides' or 'guts' are coded BA. Also included are body secretions such as blood, perspiration, saliva, and pus. Note should be made of the following grouping before coding BA. Sex

(Coding symbol BS)

This subclass embraces all body parts and organs related to reproduction and excretion such as penis, testicles, vagina, clitoris, uterus, pelvis, pubis hair, breasts, nipples, buttocks, and anus. Also included are secretions or products from these organs such as semen, menstrual blood, and faeces. Embryo and foetus are coded BS.

Clothing

(Coding symbol CL)

Covered within this class are clothing and parts of clothing. Included are outer garments, underwear, headgear, and footwear as well as such items as pocket, collar, and button. Accessories that are carried or worn by a person (such as handbag, cane, wristwatch, and eyeglasses) and jewelry (such as ring, necklace, and ornamental pin) are coded CL.

Communication

(Coding symbol CM)

This class is composed of all forms of visual auditory and written communication and means for transmitting them. Included is TV set, movie, photograph, drawing, painting, picture, sculpture, telephone, radio, tape recorder, map, and text. Objects used to produce communication such as camera, film, microphone, and paper are also coded CM.

Money

(Coding symbol MO)

This class incorporates money and objects closely associated with money. Included is any type of money in the form of currency and coins; objects that can easily be exchanged for money such as checks, and subway tokens; negotiable objects such as stocks and bonds, records, referring to monetary values such as check stubs, bills, receipts and price tags. Unless a purse is considered a stylistic accessory that is a receptacle for a wide variety of objects beside money. Bank buildings are coded MO.

Miscellaneous

(Coding symbol MS)

An object that cannot be included in any of the preceding classes is coded MS.

Coding rules

Some objects raise problems as to whether they should be coded in one class or another. Their placement must be decided on the basis of context usage of the object, and the manner in which it is described. For example, a knife can be used as an aggressive implement (IW) or as cutlery (HH). A key may open a home (HH) or it may start a car (TR). To use rags for household cleaning (HH) is quite different from wearing them for clothing (CL). Thus objects such as knives, keys, and rags cannot be mechanically assigned to the household class in every instance.

1. Each object is to be assigned to only one class. A knife, for example, cannot be both a household object (HH) and a weapon (IW).

Example

“He kept coming after me with a KNIFE (IW) in his HAND (BE)”

2. Any object that is mentioned in the dream is coded. An object need not be physically present to be coded.

Example

“I was planning to buy a CAR (TR)”

3. If the same object is mentioned several times in a dream, it is coded only once. If two or more similar but different objects of the same type are mentioned, each is coded.

Example

“I looked the NECKLACE (CL) and passed it along to Jim, then he handed the necklace to Walt”

4. If an object is a part or subunit of a larger unit, each of the subunits as well as larger unit is coded.

Example

“His NOSE (BH) was very large for his FACE (BH)”

5. An object is not coded if it is referred to in a generic sense, or if the dreamer mentions an object in order to exclude it.

Example

“I told her that I was eager to finish school”

The classification and coding of descriptive elements

In addition to reporting that people and objects appeared in a dream and that certain events took place, dreamers may also describe some attributes and qualities of objects, people, actions, and emotional states. They say it was ‘a red car’, ‘an intense fear’. In dream reports, a person may be characterised as ‘running rapidly’, ‘working very hard’. Dreamers may also note the passage of time - ‘we seemed to be riding for about an hour’ - or refer to a particular time - ‘it was midnight’. They may also describe things, people, and happenings not in terms of what they were but in terms

of what they were not - 'it was not my mother'. We call of these descriptive elements.

IN coding descriptive elements, three different scales are involved - the modifier scale, the temporal scale, and the negative scale. Each of these is discussed below and illustrated by coding examples.

The categories and scales in the following section have not been routinely used in most studies. They are to be used by highly committed investigators, or to test very specific hypotheses, or when there seems to be a striking occurrence of an element that fits into one of these descriptive categories. By and large, the frequencies for these categories are low.

Modifiers

A modifier is any adjective, adverb, or phrase that is used for descriptive elaboration. Because any object can be classified with regard to an extremely large number of attributes, the number of modifiers classes could be a large one. We have limited the number of classes to nine. These nine represent those on which satisfactory reliability could be obtained and for which psychological significance probably exists. Each of the nine classes can be considered to represent bipolar qualities, and each class of modifiers is therefore coded with a plus or minus sign to indicate which pole of the modifier is represented.

Colour

(Coding symbol C)

Any mention of colour or a colour name is coded unless the term is used to describe an emotional state. Chromatic colours are coded C+ and achromatic colours (black, white, and grey) are coded C-. The same colour can be coded more than one time if it refers to separate things. In the following example the reader is reminded that italics represent non-scorable elements.

Example

"I saw a RED car on the street"

"I called him a *yellow* coward"

Size

(Coding symbol S)

This class contains all references to the largeness or smallness of things. Descriptive terms indicating a large size as 'big', 'huge', 'thick', 'tall', are coded S+. The antonyms of these terms such as 'small', 'tiny', 'thin', 'short', are coded S-. The concept of size is ordinarily thought of as being appropriate only for objects that have height, width, and length - that is, for three-dimensional objects. As is evident from the above list of terms, we code a reference to any one of these three physical dimensions as a size term. References to the temporal dimension as when an interval of time is described as short or long are not coded as size modifiers. It should be remembered that although many nouns such as 'midget' or 'giant' could be classified as indicating size differences, only the modifying terms are included in the modifier scale.

Examples

"I climbed a HIGH (S+) wall and ran down a NARROW (S-) street between TALL (S+) buildings"

"We had a *narrow scrape*"

Age

(Coding symbol A)

References to a person being old or to an object being old are coded A+, and for a person being young or an object being new are coded A-.

Example

“My OLD (A+) boyfriend laughed at my YOUNGER (A-) brother”

Density

(Coding symbol D)

Modifiers included in this class must refer to a bounded area or to some type of container. References to such areas or containers as being full bulging or crowded are coded D+. If such areas or containers are described as empty they are coded as D-.

Examples

“The church was CROWDED (D+) with people”

“The suitcase was EMPTY (D-)”

Thermal

(Coding symbol T)

References to contrasting temperatures are included in this class. Things that are described as warm or hot are coded T+; things that are described as cool or cold are coded T-. Other descriptive terms that refer to measurable qualities of temperature are also scoreable. Objects that are inferentially known to be hot or cold or descriptions of verbal interactions as heated, etc, are not coded.

Examples

“I suddenly felt WARM (T+)”

“The wind was CHILLY (T-)”

Velocity

(Coding symbol V)

This class contains references to the speed with which objects or people move. Fast movement is coded V+, and slow movement is coded V-. Speed of mental activity is codeable is described in such terms as ‘quickly’ or ‘slowly’, but the word ‘suddenly’ is not coded.

Example

“I walked FAST (V+) down the street”

Linearity

(Coding symbol L)

References to whether an object possesses linear or non-linear qualities are included in this class. Objects that are described as straight or flat are coded L+, and objects that are described as curved, crooked, or in synonymous terms are coded L-. Knowledge that an object is straight or curved is not sufficient grounds for coding the dreamer himself or herself must indicate that attention was paid to these qualities of linearity.

Example

“She drew a *line* with the *ruler*”

Intensity

(Coding symbol I)

Contained within this class are modifiers that are used to describe force or expenditure of energy. Modifiers indicating a strong intensity are coded I+; modifiers indicating a weak intensity are coded I-. Intensity modifiers may refer to either physical or mental energy or to emotions and sensations. Simple mention of an

emotion generally must use some intensity modifier such as ‘very’ or ‘greatly’, in order to be considered scoreable.

Example

“I worked VERY HARD (I+) on solving the physics problem”

Evaluation

(Coding symbol E)

This class covers evaluative remarks that are made about people or objects. Because so many terms could be considered to represent a judgment; opinion, or evaluation of some sort, we found it difficult to obtain any appreciable degree of coding reliability until we finally limited our coding to only two areas. These two areas are those of aesthetic and moral evaluation. Descriptions indicating that something is considered aesthetically pleasing or morally correct are coded E+; descriptions indicating the aesthetic unpleasant or morally incorrect are coded E-. Reference to any type of stimulus considered to be pleasant or unpleasant to the sense is included in the aesthetic class. Included in the moral class are references to personal conduct as being right, correct, appropriate, or approved, as well as references indicating opposite kind of evaluation.

Examples

“The sunset is BEAUTIFUL (E+)”

“A DIRTY LOOKING (E-) man came out of a SHABBY (E-) hut”

Temporal scale

Within the dream report, references may occur to various time intervals or to particular points in time. Such temporal references are indicated by the coding symbol T. No distinction is made between long and short units of time, thus, unlike the bipolar modifier scales, + and - differentiations are not included as part of the coding symbols. The thermal class is also indicated by the coding symbol T, but the + or - sign is always included in the thermal coding. Examples of the two subclass of temporal references that are coded are included below as well as examples of situations that are not coded.

1. References to a specific unit of time such as a minute, hour, day, week, or year and references to a non-specific interval of elapsed time.

Examples

“My girlfriend spent the DAY with me”

“A FEW MINUTES later I got up and went outside”

2. Reference to a particular time for the purpose of dating an event.

Example

“It was the FOURTH OF JULY”

Do not code the age of the person.

Example

“She was 10 years old”

Negative scale

The remaining scale that appears in the classification of descriptive elements is negative scale. Some dreamers use direct, straightforward language in describing what happened in their dreams, whereas other dreamers take much more devious approach and describe what was not happening or what something did not resemble. Because these differences in descriptive approach can be discerned in reading dream reports, we decided that a negative scale should be constructed that would reflect

these stylistic differences. This is the only scale in which comments by the dreamer on his or her dream such as 'it was not a log dream' are coded. Scoring examples for the two types of negative words are given below. The coding symbol for negative words in N.

1. Use of any of the common negative words such as 'no', 'not', 'none', 'never', 'neither', and 'nor'.

Examples

"It was NOT a gun but a bottle that the man had in his hand"

"My brother NEVER wears a tie"

2. Use of negative words that are created by adding certain prefixes to adjectives or adverbs. When these prefixes are added and used in such a way that the word not could be substituted for the prefix without changing the meaning the word is counted as a negative. These prefixes are 'un', 'im', 'in', 'il', 'ir', and 'non'.

Examples

"The mechanic said it was a NONESSENTIAL part that was missing"

"I was UNSURE of my ability and thought I would be INCAPABLE of coding it"

Two quasi-theoretical scales: food and eating and elements from the past

There is a greater obsession with food and eating in industrial urban societies. There is also a belief that the elderly and the psychologically disturbed tend to live more in the past than other people. To see if either or both of these issues are reflected in dreams, two quasi-theoretical scales were developed as part of the Hall? Van de Castle system. One is called food and eating; the other is called elements from the past. As is shown in the main text, both have to be useful in studies of specific individuals..

Food and eating

This scale consist of the consummatory activities of eating and drinking and of preparatory activities that precede and lead to these consummatory activities. The five subclasses listed below are arranged in order of increasing distance from the consummatory responses that constitute the first subclass.

The coding symbol for food and eating is OI (for oral incorporation)

OI1. A character is reported as actually eating, drinking, nursing, swallowing, and so on, or these activities are referred to although they do not actually occur during the dream.

Example

"My boyfriend and I ATE hamburgers after the movie"

OI2. A character is actually in an eating place such as a restaurant, bar, dinning room, or cafeteria, or an eating place is referred to in the dream report. Do not code it is explicitly stated that the character is in the eating place for a reason other than that of eating or drinking.

Example

"I went to the bar to use the telephone"

OI3. A character is preparing food, cooking it, or seeing or using utensils associated with food, or these activities or objects are mentioned in the dream report.

Example

"My mother was MIXING SOME CAKE BATTER"

OI4. A character secures food by buying it, picking it, or some other means, or a character is in a food store, or these are mentioned in the dream report. Do not code

if explicitly stated that the character is in the food store for a reason other than that of buying food.

Example

"My mother sent me to BUY BREAD AND BUTTER"

OI5. Food is seen or mentioned in the dream report but not in connection with any of the foregoing activities; that is, it is not being eaten, served, prepared, or bought. If food is seen or mentioned in connection with one of the foregoing subclasses 1-4, do o give food an additional coding

Example

"I BOUGHT two candy bars"

The elements from the past

Seven subclasses of events in dream reports are coded as elements from the past. The coding symbol for elements from the past is RE (for regression).

RE1. The dreamer dreams of being in a setting or locale in which he has not been for over a year.

Example

"I was teaching in a school that I taught in WHEN I WAS A YOUNG WOMAN"

RE2. The dreamer dreams of being younger by at least a year.

Example

"In this dream I SAW MYSELF AS A CHILD with long pigtails"

RE3. The dreamer dreams of someone he or she has not seen or heard from within a year.

Example

"I was at a party when I met Nancy Jones. I HAVE NOT SEEN HER OR THOUGHT ABOUT HER FOR YEARS"

RE4. The dreamer dreams of doing something he or she has not done for at least a year.

Example

"My brother and I were climbing a mountain. I HAVE NOT BEEN ABLE TO DO ANY CLIMBING FOR THE LAST FIVE YEARS, although I used to do a lot when I was younger"

RE5. The dreamer dreams of someone who has been dead for at least a year.

Example

"I SAW MY FATHER come into the room and kiss my mother. I knew he was my father, ALTHOUGH HE'S BEEN DEAD FOR OVER 50 YEARS, because he had a black beard that he used to let me pull when I was a child"

RE^6. The dreamer dreams of another person as being younger, by at least a year, than he or she currently is.

Example

"My sister appeared to be about 18 YEARS OLD in the dream although she is actually over 40"

RE7. The dreamer dreams of an object that he or she has not had for at least a year.

Example

"I was wearing a dress THAT I GAVE AWAY YEARS AGO"

Appendix 15

Formulas for calculating Hall and Van de Castle Content Indicators

Characters

Male/Female per cent	Males / (males + females)
Familiarity per cent	Familiar / (familiar + unfamiliar)
Friends per cent	Friends / all humans
Family per cent	(Family + relatives) / all humans
Group per cent	Plural humans / all humans
Animal per cent	Animals / all characters

Social Interactions

Aggression/Friendliness per cent	Dreamer involved aggression / (D-inv. Aggression D-inv. Friendliness)
Befriender per cent	Befriender / (befriender + befriender)
Aggressor per cent	Aggressor / (aggressor + victim)
Victimization per cent	Victim / (victim + aggressor)
Physical aggression per cent	Physical aggressions / all aggressions

Settings

Indoor setting per cent	Indoor / (indoor + outdoor)
Familiar setting per cent	Familiar / (indoor + outdoor)

Other Content Categories

Self-Negatively per cent	(d as vict. + D. inv. Misfortune + D-inv. Failure) / (D as vict. + D-inv. Misf. + D-inv. Fail. + D as befriended + D-inv. GF + D-inv. Success)
Bodily misfortunes per cent	Bodily misfortunes / all misfortunes
Negative emotions per cent	Negative emotions / all emotions
Dreamer-Involved success per cent	D-involved success / (D-inv. Success + D-inv. Failure)

Dream Reports with at Least One:

Aggression	Dreams with aggression / number of dreams
Friendliness	Dreams with friendliness / number of dreams
Misfortune	Dreams with misfortune / number of dreams
Good fortune	Dreams with good fortune / number of dreams
Success	Dreams with success / number of dreams
Failure	Dreams with failure / number of dreams
Striving	Dreams with success or failure / number of dreams

Note: Table extracted from the Domhoff 1999 work: 'Directions in the study of dream content using the Hall and Van de Castle coding system, *Dreaming*, 9: p. 118.

Appendix 16

The Content Analysis Statistical Approach

Introduction

This appendix is based upon the Appendix D of Domhoff's book, *Finding Meaning in Dreams*, (1996), pp.311-320. We use Domhoff's appendix to explain about the rationale of the statistical approach used by Domhoff regarding the content analysis of dreams.

The statistical approach used by Domhoff, uses simple percentages and the differences between these percentages. Technically, we are dealing with 'proportions', but percentages are just a special case of a proportion in which the denominator is 100.

An approach based in percentages is useful for us for two relatively unique reasons. First, our content categories are nominal ones, and nominal categories lend themselves very readily to percentage data. Second, percentages are a good approach to analysing our data because the test for statistical significance between two independent proportions is equivalent to better-known statistics with two-sample comparisons, and we are usually comparing only two samples. For example, as will be shown later in the discussion, percentages in a two-sample comparison are the equivalent of the better-known and more widely used 2 x 2 table. With a 2 x 2 table, as also will be shown, several different statistical tests provide equivalent results.

Using percentages, we can determine both the statistical 'significance' or 'stability' or differences between two samples and the relative magnitudes (psychological significance) of differences. Our test for statistical significance is called the 'significance of differences between two independent proportions'; the result it yields is usually called a 'z' score. The statistic for effect size proportions has been named 'h' by its creator (Cohen, 1977, p.180). The effect size statistic h is determined first in Table d.2 and then used to find the significance level in table D.3. Thus, there is no need to use the usual formula for determining the z score, although a very simple formula is provided for determining a z score on the basis of h.

Given that an approach based in percentages is possible, the next question becomes whether this type of analysis is as good as the other statistics we could have used. This may come as a surprise to some readers; therefore, we take a few paragraphs to compare proportion-based statistics with the alternatives.

First, it is important to realize that a proportion is merely a type of mean where all the values in the distribution of scores are either zero or one. As Cohen (1977, p. 179) explains:

A proportion is a special case of an arithmetic mean, one in which the measurement scale has only two possible scores, zero for the absence of a characteristic and one for its presence. Thus, one can describe a population as having a proportion of males of .62, or, with equal validity (if not equal stylistic grace), as having a mean 'male-ness' of .62, the same value necessarily coming about when one scores each male 1, each non-male 0, and finds the mean.

Cohen (1977, p. 179) then notes that “the same kind of inferential issues” are involved with proportions as with means in general. Given the fact the same logic underlies both mean difference and proportional-difference testing, there is no particular advantage for our purposes to determining the mean number of characters or aggressions of emotions per dream, as some researchers do. Indeed, there are major problems with such an approach, unless there is a correction for dream length.

Second, percentage differences between two samples can be viewed in correlational terms. Moreover, as Rosenthal and Rubin (1982) have shown, the percentage difference two samples is exactly equal to the Pearson r between the two samples. For example, a difference of .13 percentage points between two samples can be understood as an r of .13 between two dichotomous variables. Thus, there is nothing to be gained by working with correlational statistics instead of percentages with our kind of data.

Third, percentage differences between two samples are also exactly equivalent to a chi-square analysis of a 2×2 table. For example, we could put our findings on gender differences in the percentage of familiar characters, in the format of table D.1.

In effect, this 2×2 table displays both ‘familiarity’ and the ‘unfamiliarity’ percents. Although chi-square is a very versatile and useful statistic because it can be used to analyse tables with any number of rows and columns, it yield exactly the same results with a 2×2 table as our test for the significance of differences between proportions; specially, $z = \sqrt{x^2}$. Moreover, the effect size statistic derived from chi-square, called phi, is exactly equivalent to the difference between the percentages in the top row of a 2×2 table. That is, $r = \text{phi}$ in a 2×2 table. Lambda, a widely used measure of association in tabled data, also is equal to r and phi in a 2×2 table when percentages are used. Thus, there is no advantage for us in using chi-square and phi (or lambda) instead of z and h .

Even though a percentage-based approach is equivalent to the alternatives with our nominal categories and two-sample designs, and percentages also are useful in multidimensional tables, why should a percentage-based approach be favoured over the others? The main reason is to be found in the two crucial analytical problems, namely, correcting for (1) differences in dream length and (2) variations in raw frequencies of elements. Once we adopt a solution to those problems using percentages and indexes, we are in a situation where a test of significance using differences between two independent proportions (percentages and indexes in our terminology) makes the most sense.

Each new investigator makes her or his decision on what statistics to use on the basis of a variety of considerations. However, given the fact the statistics we have chosen are equivalent to the alternatives with our kind of data, we hope others will adopt our statistical conventions when using the Hall/Van de Castle coding system so that all future with it will be easily comparable.

Determining and Understanding Effect Size h

As we noted earlier in this appendix, it is very easy to determine effect sizes using percentages. Basically, the difference between the two percentages is the effect size. As so often happens when things seem too good to be true, however, there is unfortunately a slight complication. The same percentage difference means slightly things at the extremes of the 0-100% distribution than it does in the middle. For instance, the 10 percentage points between, say, 15% and 5%, or between 95% and

85%, both of which are at the extreme ends of the range, do not mean the same thing as the same percentage difference in the middle of the range, say between 50% and 40%. We don't need to understand why this is so, although it has to do with the fact 'the standard deviation of the sampling distributions depend upon their population parameters, which are unknown. Nor do we have to understand the mathematics used to correct the problem. We simply use Table D.2 to convert our two percentages into the needed corrections and then subtract one from the other to derive h , our effect size.

To show how to use Table D.2, let us take the gender difference in familiarity percent (45% for males, 58% for females). We simply find 58% in the third 'P' column from the left-hand side of the table and convert to 1,731, the number to its right in the X column.

Table D.2
Determining ' h ' from the differences between two percentages

To determine the effect size of the difference between two percentages, change each percentages (P) into an X using the table below, then subtract the smaller X from the larger one.

P	X	P	X	P	X	P	X
0	.000	25	1.047	50	1.571	75	2.094
1	.200	26	1.070	51	1.591	76	2.118
2	.284	27	1.093	52	1.611	77	2.141
3	.348	28	1.115	53	1.631	78	2.165
4	.403	29	1.137	54	1.651	79	2.190
5	.451	30	1.159	55	1.671	80	2.214
6	.495	31	1.181	56	1.691	81	2.240
7	.536	32	1.203	57	1.711	82	2.265
8	.574	33	1.224	58	1.731	83	2.292
9	.609	34	1.245	59	1.752	84	2.319
10	.644	35	1.266	60	1.772	85	2.346
11	.676	36	1.287	61	1.793	86	2.375
12	.707	37	1.308	62	1.813	87	2.404
13	.738	38	1.328	63	1.834	88	2.434
14	.767	39	1.349	64	1.855	89	2.465
15	.795	40	1.369	65	1.875	90	2.498
16	.823	41	1.390	66	1.897	91	2.532
17	.850	42	1.410	67	1.918	92	2.568
18	.876	43	1.430	68	1.939	93	2.606
19	.902	44	1.451	69	1.961	94	2.647
20	.907	45	1.471	70	1.982	95	2.691
21	.952	46	1.491	71	2.004	96	2.739
22	.976	47	1.511	72	2.026	97	2.793
23	1.000	48	1.531	73	2.049	98	2.858
24	1.024	49	1.551	74	2.071	99	2.941

Note: This table is taken from Cohen (1977, p.183).

For those who might want to calculate h directly with a software program, the formula is:

$X = \cos^{-1} (2(1 - P) - 1)$, or $h = \cos^{-1} (2(1 - P_1) - 1) - \cos^{-1} (2(1 - P_2) - 1)$.

P is a proportion between 0 and 1, not a percentage. The \cos^{-1} operation should return a value in radians, not degrees.

We then locate 45% in the second 'P' column and convert it to 1.471. Next we subtract 1.471 from 1.731, which gives us an h of .26.

To situate the particular this particular h of .26 in the context of more familiar numbers, and thus give it more meaning, we return to the Pearson r and the arithmetic difference between two percentages. Roughly speaking, h is about twice as large as a Pearson r or the arithmetic difference between two percentages, at least for all but the extremes of the 0-100% range. Therefore, when readers see a difference of 5 to 20 percentage points between two samples on some content category, they can make a mental note that effect size is a small one ($h = .10$ to $.40$). If there is a difference ranging from 20 to 35 percentage points, this is a medium effect size ($h = .41$ to $.70$). If they see a difference of 35 percentage points or greater, they can note that the effect size is a large one ($h = .71$ or greater).

Relatively few effect sizes in our studies can be described as 'large', and in fact large effect sizes are relatively rare in most psychological research. In the area of gender differences, most of our findings are in the small to medium range. Men and women are far more similar than different in their dream content when it comes to our content categories. Nevertheless, the differences are important enough that we have to use different norms for seeing how an individual dream series of male or female is typical or atypical.

Determining significance levels

Now that we discussed h and its relationship to other measures, and shown how to derive it from table D.2, the next task for this statistical appendix is to show how h can be used in conjunction with sample size to determine statistical significance from table D.3. As noted earlier in this appendix, table D.3 is a substitute for using the formula for determining the significance of differences between two independent proportions. To illustrate the use of table D.3, let us assume that we are comparing two samples each having 140 observations in them and an h difference of .32. Because the N in both samples is the same, we simply look down the column named N or N' until we come to 140. We look to our right and see that an h of .23 or above is significant at the .05 level of confidence and an h of .31 is significant at the .01 level of confidence. Because the h in this hypothetical example is .32, the difference between the two samples is statistically significant at the .01 level of confidence, meaning there is less than one chance in a hundred that the difference we have found is not a real difference.

Table D.3
Determining statistical significance from h using N or N'

N or N'			N or N'			N or N'		
	.05	.01		.05	.01		.05	.01
15	.72	.95	36	.47	.61	88	.30	.39
16	.70	.92	37	.46	.60	92	.29	.38
17	.68	.89	38	.45	.60	96	.29	.38
18	.66	.86	39	.45	.59	100	.28	.37
19	.64	.84	40	.44	.58	120	.26	.34
20	.62	.82	42	.43	.57	140	.24	.31
21	.61	.80	44	.42	.55	160	.22	.29
22	.60	.78	46	.41	.54	180	.21	.28
23	.58	.76	48	.41	.53	200	.20	.26
24	.57	.75	50	.40	.52	250	.18	.24
25	.56	.73	52	.39	.51	300	.17	.22
26	.55	.72	54	.38	.50	350	.15	.20
27	.54	.71	56	.37	.49	400	.14	.19
28	.53	.69	58	.37	.48	450	.14	.18
29	.52	.68	60	.36	.48	500	.13	.17
30	.51	.67	64	.35	.46	600	.12	.15
31	.50	.66	68	.34	.45	700	.11	.14
32	.49	.65	72	.33	.43	800	.10	.13
33	.48	.64	76	.32	.42	900	.10	.13
34	.48	.63	80	.31	.41	1000	.09	.12
35	.47	.62	84	.31	.40	1200	.08	.11

Note: The decimal numbers in this table are h values. Round-off error leads to the same h value for slightly different sample sizes in few cases. This table is adapted from Cohen (1977, tables 6.3 and 6.3.5, pp. 192-195). It is used with the permission of the publisher and the author.

Because it is widely known that a z of 1.96 is significant at the .05 level of confidence and a z of 2.58 is significant at the .01 level, some researchers might want to display the significance finding in terms of a z score. There is an easy formula for finding z from h:

$$z = h \sqrt{\frac{n}{2}}$$

In the above example, the N for both samples was the same. In many cases, however, the samples will be of different sizes. Then N' must be determined with the following straightforward formula, where n₁ is one sample and n₂ is the other:

$$N' = \frac{2n_1 n_2}{n_1 + n_2}$$

Once N' is determined, it also can be used in the formula to convert h to z :

$$z = h \frac{\sqrt{N'}}{2}$$

As can be seen by a casual inspection of table D.3, it does not take a very large h for statistical significance when sample size are in the hundreds. Because, as noted, our sample sizes are usually large, the question of statistical significance is not a primary for us. Perhaps this table makes it even more clear why we are concerned with effect sizes rather than statistical significance.

Appendix 17

Effect-Size Estimation (Rosenthal and Rosnow, 1991. pp. 500-501)

Here we want to assess the statistical heterogeneity of three or more effect-size estimates (Rosenthal and Rosnow, 1991. Pp. 494-495). We again restrict our discussion to r as the effect-size estimator. For each of the three or more studies to be compared we compute the effect size r , its associated Fisher z , and $N - 3$, where N is the number of sampling units on which each r is based. Then the statistical significance of the heterogeneity of the r 's can be obtained from a χ^2 computed as follows:

$$\sum [(N_i - 3)(Z_i - \bar{Z})^2]$$

which is distributed as χ^2 with $K - 1$ *df*. In this equation z_i is the Fisher z corresponding to any r , and \bar{z} is the weighted mean z , i.e.,

$$\frac{\sum [(N_i - 3)Z_i]}{\sum (N_i - 3)}$$

Example: Studies A, B, C, and D yield effect sizes of $r = .70$ ($N = 30$), $r = .45$ ($N = 45$), $r = .10$ ($N = 20$), and $r = -.15$ ($N = 25$), respectively. The Fisher z 's corresponding to these r 's are found on the table of Fisher z to be .87, .48, .10, and -.15, respectively. The weighted mean z is found from the equation just above to be

$$\frac{[27(.87) + 42(.48) + 17(.10) + 22(-.15)]}{[27 + 42 + 17 + 22]} = \frac{42.05}{108} = .39$$

Then, from the equation for χ^2 above, we have

$$\sum [(n_i - 3)(z_i - \bar{z})^2] = 27(.87 - .39)^2 + 22(-.15 - .39)^2 = 14.41$$

as our χ^2 value, which for $k - 1 = 3$ *df* is significant at $p = .0024$. The four effect sizes we compared are clearly significantly heterogeneous.